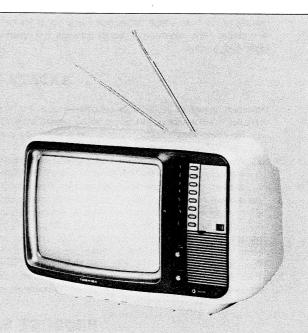
TOSHIBA

COLOR TELEVISION

C-1480F



The TV set is equipped with a 21-pin socket corresponding to the peritelevision.

SPECIFICATIONS

POWER INPUT RATING: AERIAL INPUT IMPEDANCE: RECEIVING CHANNELS:

INTERMEDIATE FREQUENCIES:

COLOUR SUB-CARRIER FREQUENCIES: CHASSIS CONSTRUCTION: PICTURE TUBE: SOUND OUTPUT:

SPEAKER: CONVERGENCE: FOCUS:

CABINET and TYPE: DIMENSION:

WEIGHT (NET): CHASSIS NO: 78 watts (nominal), AC 115 or 230 volts, 50 Hz 75 ohm unbalanced type for VHF and UHF

B-Y 4, 25000 MHz ±2 kHz, R-Y 4, 40625 MHz ±2 kHz IC Solid State, Horizontal Chassis 370 HZB22 (VY), 33.5 cm-diagonal 0.7 watt (at 10% harmonic distortion)

Maximum 1.0 watt Oval, 7×10 cm Magnetic Electrostatic Wooden, Table type Height 348 mm

Width....... 493 mm Depth...... 407 mm 16.5 kg TAS920

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" DESCRIBED BELOW.

X-RAY RADIATION PRECAUTION

- Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 24.5kv at zero beam current (minimum brightness) under a 230v (115v) AC power source. The high voltage must not, under any circumstances, exceed 26.0kv.
 - Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure on page 15 of this manual. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
- The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
- Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

- 1. Potentials as high as 22,000 volts are present when this receiver is operating. Operation of the receiver outside the cabinet or with the back cover removed involves a shock hazard from the receiver.
 - 1 Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high-voltage equipment.
 - 2 Always discharge the picture tube anode to the receiver chassis to keep off the shock hazard before removing the anode cap.
 - 3 Perfectly discharge the high potential of the picture tube before handling the tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled.
- 2. This receiver has been adjusted in the factory to operate on AC 230v, 50 Hz. But it is possible to change for use with AC 115 volts, 50 Hz. Connect your SET to the voltage of Alternating Current indicated by the AC-LINE INDICATOR located on the rear of the SET. If it is necessary to reset the AC-LINE INDICATOR, be sure to match the voltage indicated on the AC-LINE INDICATOR with that actually applied. NEVER connect to DC supply or any other power or frequency.
- 3. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list.
- 4. When replacing parts of circuit boards, wind the lead wires around terminals before soldering.
- 5. When replacing a high wattage resistor (oxide metal film resistor) in circuit board, keep the resistor 10 mm away from circuit board.
- 6. Keep wires away from high voltage or high temperature components.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by shading on the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create X-RAY RADIATION.

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1. SUMMARY

This new colour television model is all Solid-State table type, primarily composed of 1 LSI's, 1 MSI's, 9 IC, 2 PSF, 75 transistors, 92 diodes and a picture tube of 33.5 cm in-line gun slotted mask type.

A plug-in system is adopted for connecting Main PC (Printed Cirucit) Board with a Chroma PC module. This will allow easy replacement of module which facilitate rapid and correct inspection and remedy in troubleshooting.

The chassis is provided with nine PC boards and one module (chroma circuit). The In-Line Gun Picture Tube has simiplified the dynamic convergence adjustment. That is, although a conventional Delta-Gun System requires twelve-position adjustment, the In-Line Gung System requires only two-position adjustments. This implies that an advanced accuracy of convergence is allowed by the In-Line Gun System.

2. FRONT CONTROLS VIEW

FRONT CONTROLS

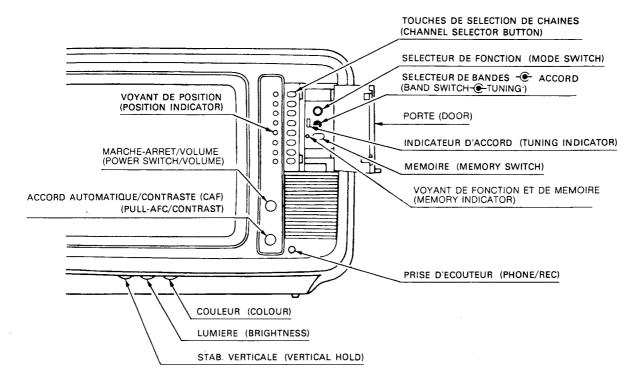


Figure 1.

3. MECHANICAL DISASSEMBLIES

3-1. BACK COVER REMOVAL (See figure 2)

- Detach the aerial cable or aerial matching trans. from aerial terminal
- 2. Remove 5 screws (A) and 2 screws (B) from the back cover.
- 3. Remove the back cover.

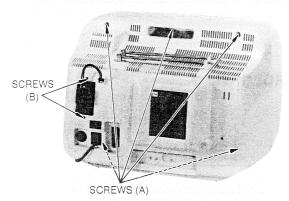


Figure 2.

3-2. DRAWING OUT AND SERVICING THE CHASSIS (See figure 3)

- 1. Remove a screw (C) securing the chassis from bottom board of cabinet.
- 2. Unfasten the leads which are fastened at the cabinet or others.
- 3. Draw out the chassis from cabinet.

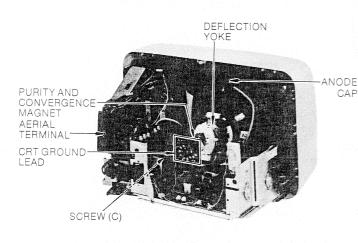


Figure 3. Chassis View

3-3. SELECTOR BLOCK REMOVAL (See figure 4)

- 1. Unfasten the leads which are fastened at the selector block.
- Loosen 2 screws (D) which hold the SELECTOR BLOCK to the front control panel.
- Remove 2 screws (E) which hold the SELECTOR BLOCK to the front control panel.
- 4. Remove the SELECTOR BLOCK from the front control panel

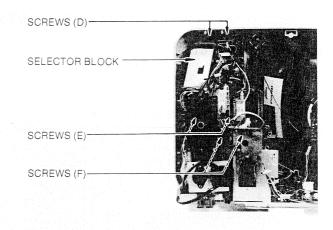


Figure 4.

3-4. FRONT CONTROL VR. BRACKET REMOVAL (See figure 4)

Following the steps under "3-3. SELECTOR BLOCK REMOVAL" proceed as follows.

- Remove 2 screws (F) which hold the FRONT CONTROL VR.
 BRACKET to the front control panel.
- Remove the FRONT CONTROL VR. BRACKET from the front control panel.

3-5. VHF/UHF TUNER REMOVAL (See figure 5)

Following the steps under "3-3 SELECTOR BLOCK REMOVAL" proceed as follows:

- Disconnect all the leads from the VHF/UHF Tuner. However before doing so, record the original lead connections.
- Remove 2 screws (G) which hold VHF Tuner to the Tuner bracket.
- 3. Remove 2 screws (H) which hold UHF Tuner to the Tuner bracket.
- 4. Remove the VHF/UHF Tuner.

3-6. KEY BOARD REMOVAL (See figure 5)

Following the steps under "3-3 SELECTOR BLOCK REMOVAL" proceed as follows:

- Disconnect all the leads from the Key Board. However before doing so record the original lead connections.
- Remove 2 screws (I) which hold Key Board to the tuner bracket.
- 3. Remove the Key Board.

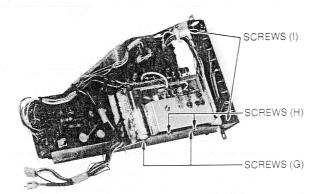


Figure 5.

3-7. CHASSIS REMOVAL (See figure 6)

Following the steps under "3-2. DRAWING OUT AND SERVICING THE CHASSIS", "3-3. SELECTOR BLOCK REMOVAL", "3-4. FRONT CONTROL VR. BRACKET REMOVAL" and "3-6. KEY BOARD REMOVAL" proceed as follows:

- Detach the CRT ground lead from CRT SOCKET BOARD. (See figure 3)
- Detach the deflection yoke leads (6P connector) from MAIN BOARD.
- 3. Detach the picture tube anode cap and CRT SOCKET BOARD from the picture tube.
- Detach 7P connector of selector unit leads, phono plug of I-F cable, 3P connector of sound out put trans. leads from MAIN BOARD.
- 5. Detach 4P connector from POWER-2 BOARD.
- 6. Detach 3P connector from POWER-2 BOARD.
- 7. Detach 2P connector of Degaussing Coil leads from POWER-2 BOARD.
- 8. Detach 3P connector from SELECTOR BOARD.
- 9. Remove the chassis.

Notice: Certainly discharge the high potential of the picture tube anode to the receiver chassis before removing the anode cap.

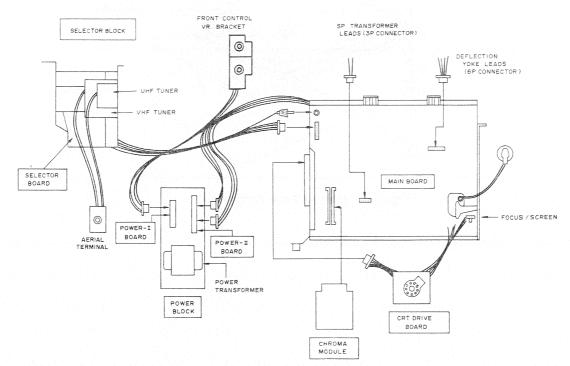


Figure 6.

3-8. POWER CORD REPLACEMENT (See figure 7)

When the power cord replacement is required. Proceed with the following steps.

- Unsolder the power cord on the terminals of POWER-1 BOARD.
- Spread the nail with a screw driver (flat) to open the holder cover.
- 3. Take out the power cord from the power cord holder.
- 4. To put on a new power cord, reverse the above procedures.

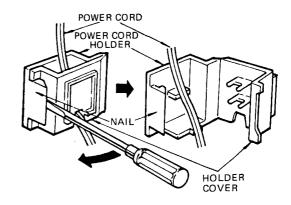


Figure 7. Power Cord Replacement

3-9. PICTURE TUBE REMOVAL (See figure 8)

After following instruction under "3-2. DRAWING OUT AND SERVICING THE CHASSIS" and "3-7. CHASSIS REMOVAL" proceed as follows:

- Place the cabinet with the front down on a rolled pad or suitable cushion placed near the top edge of the picture tube mask.
- 2. Remove the purity and convergence assembly from the picture tube neck.
- Loosen the deflection yoke clamp screw and remove the yoke.
- 4. After removing four screws securing picture tube to the cabinet, grasping the face plate of the picture tube with both hands, take out the picture tube from the cabinet.
- Detach the picture tube ground lead which is attached to the picture tube lugs with spring.

Notice: Perfectly discharge the high potential of the picture tube before handling the tube.

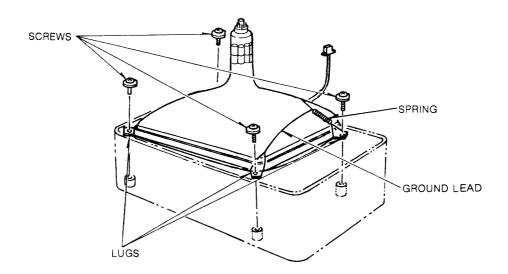


Figure 8. Picture Tube Removal

4. BLOCK DIAGRAM

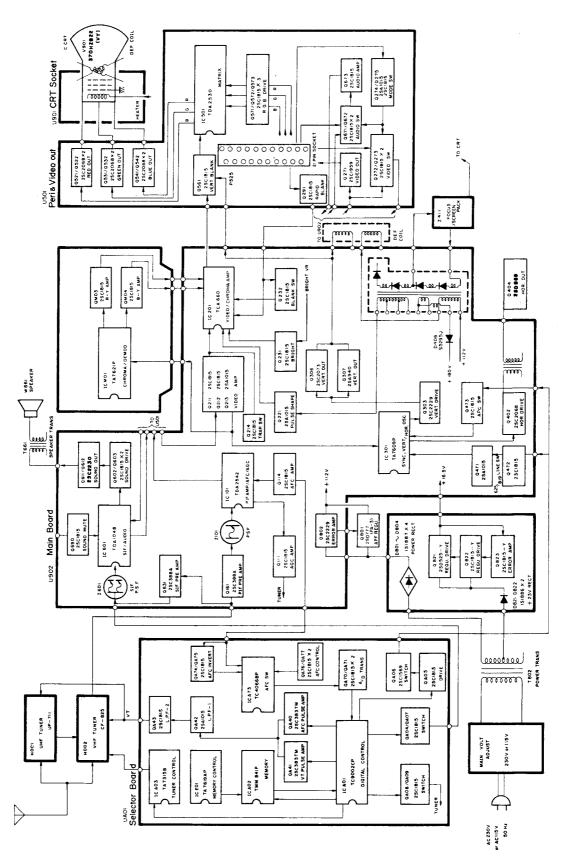


Figure 9. Block Diagram

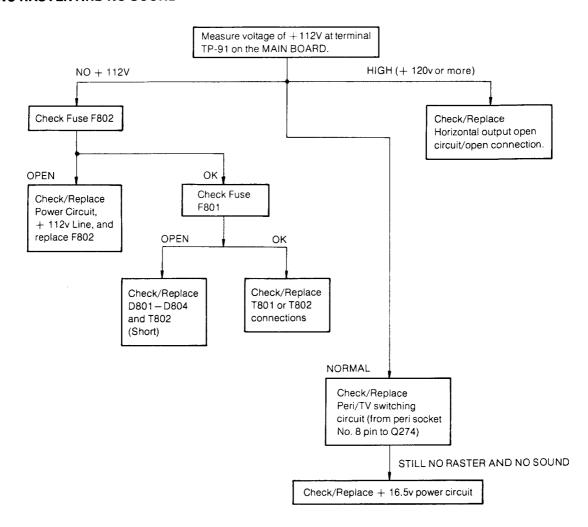
5. TROUBLESHOOTING CHART

The following charts are devoted to troubleshooting which, if followed carefully, will assist you in tracking down a fault to the correct stage.

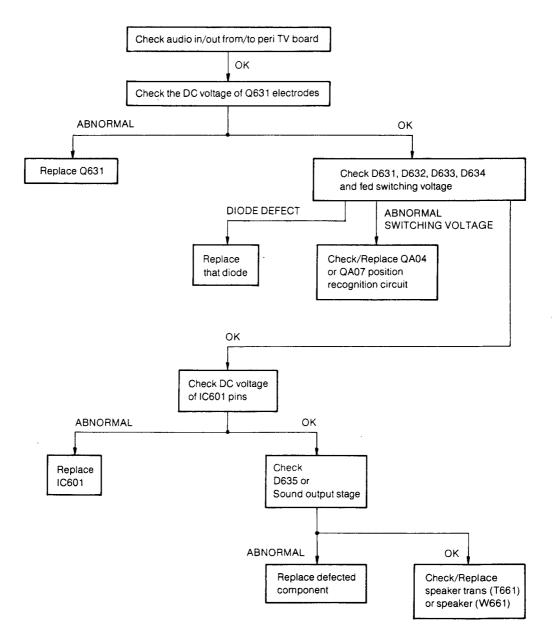
In order to utilize the charts (fault trees), firstly establish the complaint, i.e. - No Raster, No Sound.

Locate the chart applicable and then progress through the various alternatives until a final block indicates the offending components or stage.

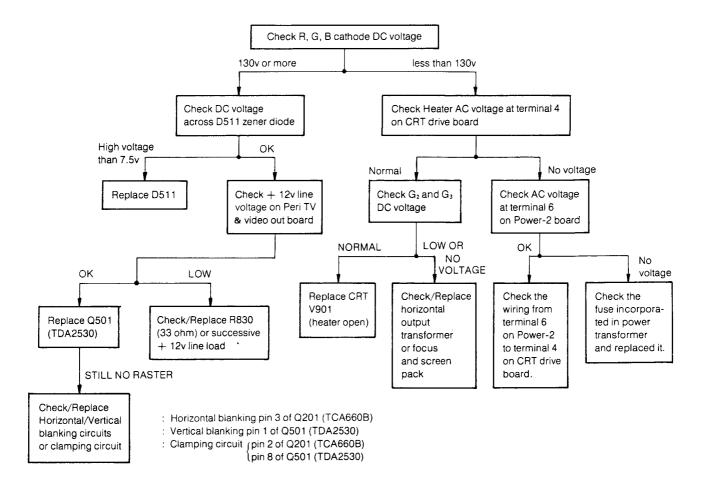
5-1. NO RASTER AND NO SOUND



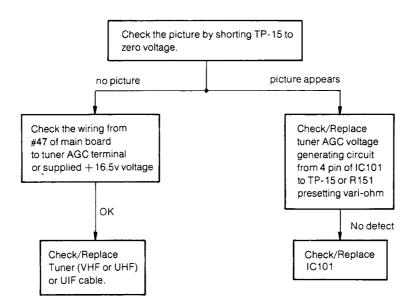
5-2. PICTURE OK AND SOUND WEAK (OR NO SOUND)



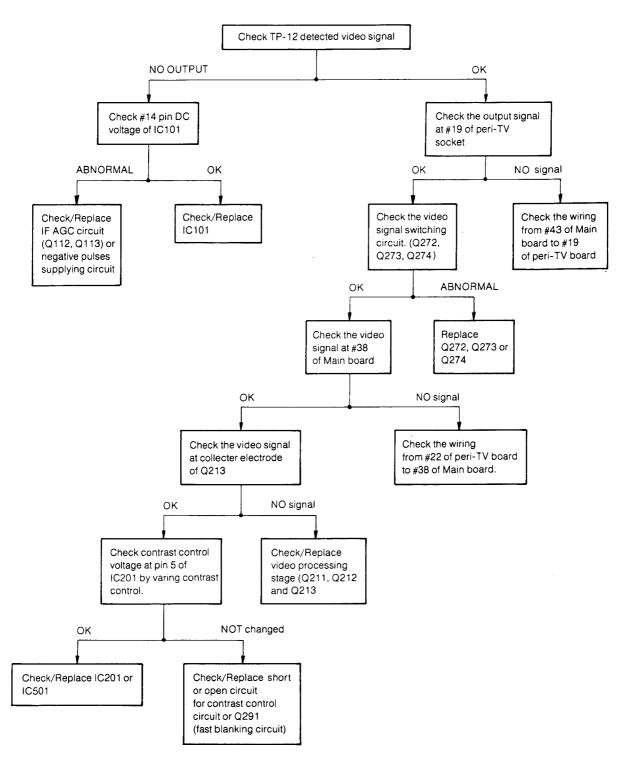
5-3. NO RASTER AND SOUND OK



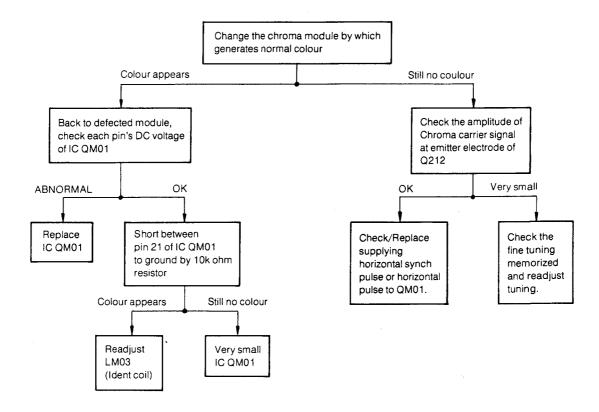
5-4. NO PICTURE (RASTER REMAINS) AND NO SOUND



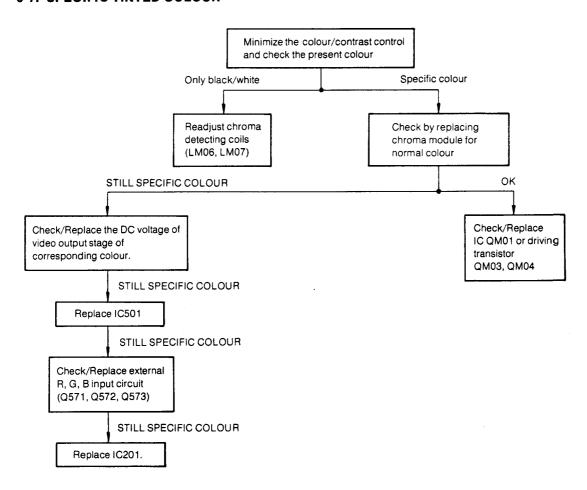
5-5. NO PICTURE (RASTER REMAINS) AND SOUND OK



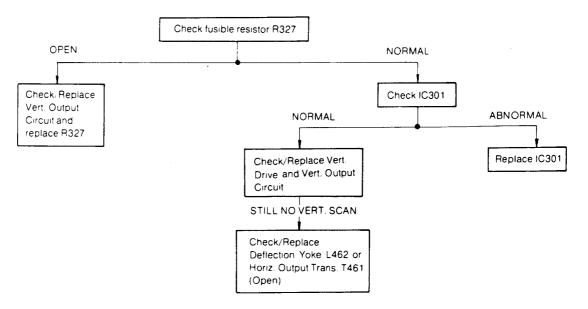
5-6. NO COLOUR



5-7. SPECIFIC TINTED COLOUR



5-8. NO VERT. SCAN (ONE HORIZ. LINE RASTER)



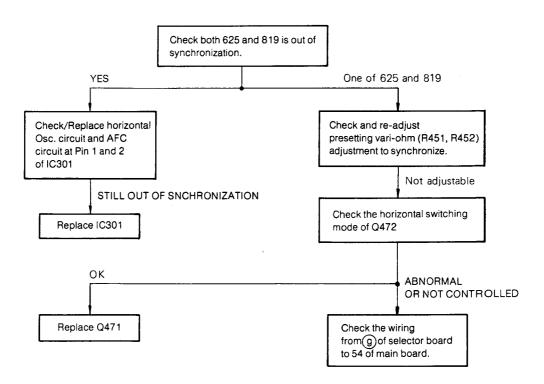
5-9. OUT OF VERT. SYNC. AND HORIZ. SYNC.

Check/Replace Sync. Sep. Circuit from (E) of Q202 to Pin (16) of IC301 and IC301

5-10. OUT OF VERT. SYNC.

Check/Replace Vert. OSC. Circuit and Vert. Hold Circuit connected to Pins (1), (12) and (13), of IC301. Check/Replace IC301

5-11. OUT OF HORIZ, SYNC



6. CHASSIS TOP AND REAR VIEWS

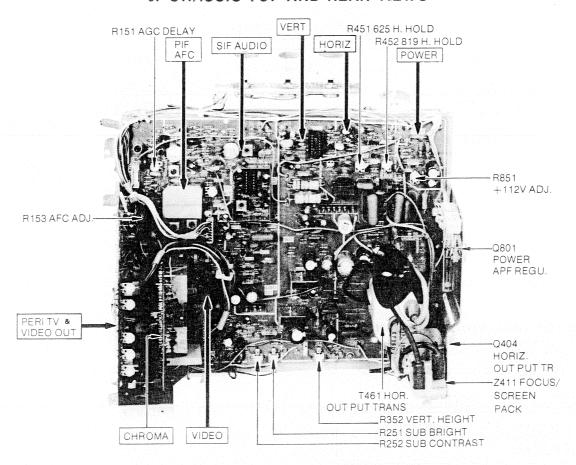


Figure 10. Chassis Top View

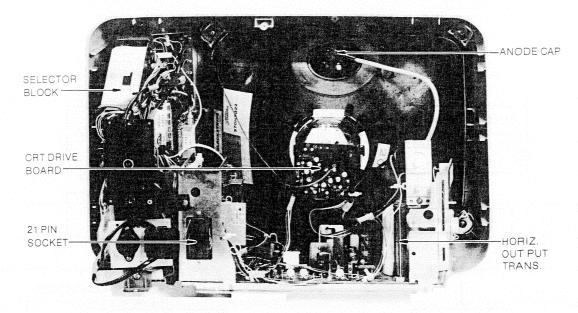


Figure 11. Chassis Rear View

7. SERVICING AID

EXTENSION CABLE

The extension cable is available when servicing the Chroma Module outside the chassis.

This extension cable is;

Part No. 23177997..... Extension Cable, 13P, for Chroma Module.

This extension cable will allow rapid inspection and remedy in troubleshooting.

However, as improper response may sometimes be caused by the stray pick-up or stray capacitance of the extension cable, the use of them should be confined to the minimum.

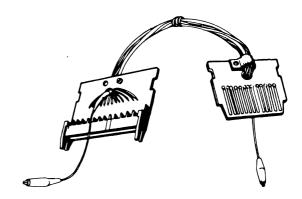


Figure 12. Extension Cable

WARNING: BEFORE SERVICING THE CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

8. INSTALLATION AND SERVICE ADJUSTMENTS

8-1. GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated

This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials.

Plug the power cord into a convenient 230 (115) volts 50 Hz AC power outlet. Never connect to direct current or any other power outlet or frequency.

Turn the receiver ON and adjust the FINE TUNING for best picture detail with the AFC Switch in OFF position.

Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST, and COLOUR Controls to obtain natural colour or B/W picture. Set the AFC Switch to ON.

8-2. AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessay, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least 10 minutes in order that the automatic degaussing circuit operates properly.

Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 meters before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures, as mentioned later.

8-3. +112 VOLT POWER SUPPLY ADJUSTMENT

CAUTION: B + voltage closely relates to the high voltage. To prevent hazardous X-RAY RADIATION, the B+ **voltage must be** properly adjusted to +112 volts.

- Tune in an active channel. Adjust the BRIGHTNESS and CONTRAST Controls for normal picture.
- 2. Check that the AC power line voltage is normal. (AC 230 (115) volts, 50 Hz).
- Connect a VTVM between Terminal TP-91 on MAIN Board (See page 22) and chassis ground.
- Adjust the B + ADH, (R851) on MAIN Board (See page 22) for +112 volts reading. Remove the VTVM.

8-4. HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. The +112 volt power supply must be properly adjusted to insure the correct high voltage.

- Connect an accurate high voltage meter to the second anode of the picture tube.
- Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
- 3. High voltage will be measured below 25.0 kv.
- Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 25.0 kv under any conditions.

8-5. HORIZONTAL OSCILLATOR ADJUSTMENT

If there is an indication of unstable horizontal sync., jitter or pulling of the picture although the AGC system is properly adjusted, it will be necessary to adjust the HORIZONTAL HOLD.

- If these conditions appear on the screen with the channel selector at 1 to 6 position.
 - Tune the receiver to any active channel with the channel selector at 1 to 6 position and turn the Knob R451 (625 HORIZONTAL HOLD) counterclockwise (or clockwise) until the picture is horizontally out of synchronization.
 - Turn the Knob R451 clockwise (or counterclockwise) to the pull-in point, then rotate it clockwise (or counterclockwise) for 30° from the pull-in point.
- 2. And if the same conditions present at 7 or 8 position.
 - Tune the receiver to any active channel with the channel selector at 7 or 8 position and turn the Knob R452.(819 HORIZONTAL HOLD) counterclockwise (or clockwise) until the picture is out of synchronization.
 - ② Rotate the Knob R452 clockwise (or counterclockwise) for 35° from the pull-in point.

8-6. VERTICAL OSCILLATOR ADJUSTMENT

If the picture moves up or down on the screen adjust the VERTICAL HOLD Control (R351) until there is a single image without vertical movement

8-7. HEIGHT ADJUSTMENT

HEIGHT Control (R352) on the MAIN Board changes the size of the picture or pattern, having an equal effect on the top and bottom. Make final adjustment to overscan the mask 1.5 cm at top and bottom

8-8. FOCUS ADJUSTMENT

Adjust FOCUS Control on FOCUS PACK Z411 for well defined scanning lines in the centre area of the screen.

8-9. AGC ADJUSTMENT

- 1. Connect a white pattern signal generator to the receiver.
- 2. Connect the direct probe to terminal TP12 on the Main Board
- 3. Adjust AGC VR (R152) on the Main Board for 3.0 Vp-p on scope (See figure 13).

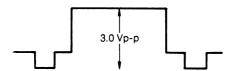


Figure 13. AGC Adjustment

8-10. DELAYED R-F AGC ADJUSTMENTS

- 1. Tune the set in the strongest station in your area.
- Turn AGC DELAY Control (R151) on the MAIN Board to fully counterclockwise position.
- Adjust AGC DELAY Control clockwise until noise (snow) disappears from the screen.

8-11. AFC (Automatic Frequency Control) FIELD ALIGNMENT

- Place AFC Switch in OFF position. Tune the set to an active channel and adjust fine tuning for best picture.
- Place AFC Switch in ON position, and adjust Trans. (L171) on MAIN Board for best picture. Picture quality should be the same as that obtained in Step 1.
- Check the AFC PULL-IN action by turning the FINE TUNING Control clockwise and counterclockwise.

8-12. SECAM COLOUR KILLER THRESHOLD ADJUSTMENT

- 1. Receive the SECAM colour signal.
- 2. Adjust LM03 so the SECAM colour is obtained.

8-13. SECAM CHROMA DET. COIL ADJUSTMENT

- 1. Receive colour bar signal.
- Adjust the CHROMA DET. COILS (LM06, LM07) so that the black and white parts are the same as white balance at the black and white signal reception.

8-14. SIF DET. COIL ADJUSTMENT (This adjustment needs the oscilloscope)

- Tune in a programme which has a pure tone. (For example 400 Hz or 1 kHz)
- Connect the probe of oscilloscope to Terminal TP-21 on the Main Board.
- Adjust SIF DET. COIL L602 (See figure 21) so that the detected signal amplitude (pure tone) goes to maximum.

8-15. COLOUR PURITY ADJUSTMENT

Note: Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

Purity adjustment requires Rubber Wedge kit.

- Demagnetize the picture tube and cabinet using a degaussing coil.
- Turn the CONTRAST and BRIGHTNESS Controls to maximum.
- Adjust RED and BLUE CUT OFF controls (R552 and R554) to provide only a green raster. Advance the GREEN CUT OFF Control (R553 if necessary.
- Loosen the clamp screw holding the yoke, and slide the yoke backward or forward to provide vertical green belt (zone) in the picture screen.
- 5. Remove the Rubber Wedges.
- Rotate and spread the tabs of the purity magnet (See figure 15) around the neck of the picture tube until a green belt is obtained in the centre of the screen. And at the same time, centre the raster vertically by adjusting the magnet.
- 7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw.
- 8. Check the purity of the red and blue raster by adjusting the CUT OFF Controls.
- 9. Tighten the clamp screw of the yoke temporarily.
- Obtain a white raster; referring to "CRT GREY SCALE ADJUSTMENT".
- 11. Proceed with convergence adjustment.

8-16. CRT GREY SCALE ADJUSTMENT

- 1. Tune in an active channel.
- 2. Set the COLOUR Control to minimum.
- 3. Disconnect the terminal P901 on the CRT SOCKET Board.
- 4. Turn the SCREEN Control (Z411) full counterclockwise.
- 5. Set the GREEN and BLUE DRIVE Controls (R557, R556) to the mid position.
- Set the RED, GREEN and BLUE CUT OFF Controls (R552, R553, R554) to the mid position.
- 7. Short temporarily terminals #23 and #22 on the Main Board with a jumper wire.
- 8. Short temporarily terminals () and () on the Main Board with a jumper wire.
- Rotate the SCREEN Control (Z411) gradually clockwise until
 the second horizontal colour line following the first line
 appears slightly on the screen. Then turn fully
 counterclockwise the two CUT OFF Controls corresponding
 to the colours of the first and the second horizontal lines to
 eliminate the lines.
- Set the SCREEN Control to the position where the third horizontal line lights slightly on the screen.
- 11. Adjust the two CUT OFF Controls set to the minimum in item 9 above to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colours. (The line may look like white if the CUT OFF Controls are adjusted properly.)
- 12. Remove a jumper wire between terminals \bigcirc and \bigcirc and reconnect the RASTER TERMINAL.
- Remove a jumper wire between terminals #23 and #22 on the Main Board.
- Rotate the BRIGHTNESS and CONTRAST Controls to the maximum.
- 15. Adjust the BLUE and GREEN DRIVE Controls to obtain proper white-balanced picture in high light areas.
- 16. Rotate the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

8-17. SUB-BRIGHTNESS ADJUSTMENT

- 1. Tune in a colour programme.
- Set the CONTRAST Control to the maximum and the BRIGHTNESS Control to the centre.
- 3. Set the COLOUR to the centre.
- 4. Set the SUB-BRIGHT. Control (R251) to the centre and leave the receiver for five minutes in this state.
- Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
- Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
- If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the Controls turned to the maximum, adjust the SUB-BRIGHT. Control again for the acceptable picture.

8-18. CONVERGENCE ADJUSTMENTS

Note: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ Centre Convergence Adjustment

- Receive crosshatch pattern with a colour bar signal generator.
- Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
- Adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 15) and superimpose red and blue vertical lines in the centre area of the picture screen. (See figure 15.)
- 4. Turn the both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the centre of the screen. (See figure 16.)
- Adjust two tabs of 6-Pole Magents to superimpose red/blue line and green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
- Repeat adjustments 3, 4, 5 with understanding red, green and blue movement, because 4-Pole Magnets and 6-Pole Magnets have mutual affection and it makes dots movement complex.

■ Circumference Convergence Adjustment

- Loosen the clamping screw of deflection yoke to allow the voke to tilt.
- 2. Put a wedge as shown in figure 14 temporarily. (Do not remove cover paper on adhesive part of the wedge.)
- Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See figure 16.) Push the mounted wedge into the space between picture tube and the yoke to fix the yoke temporarily.
- Put other wedge into bottom space and remove the cover paper to stick.
- Tilt front of the yoke right or left to obtain better convegence in circumference. (See figure 14.)
- Keep the yoke position and put another wedge in either upper space. Remove cover paper and paper and stick the wedge on picture tube to fix the yoke.
- 7. Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
- After fixing three wedges, recheck overall convergence.
 Tighten the screw firmly to fix the yoke and check the yoke is firm.
- 9. Stick 3 adhesive tapes on wedges as shown in figure 14.

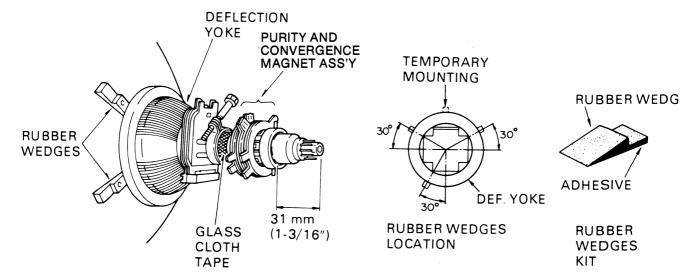
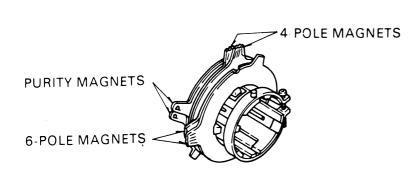
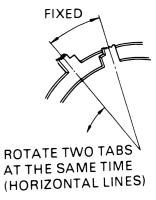


Figure 14.



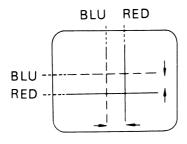
ADJUST THE ANGLE (VERTICAL LINES)

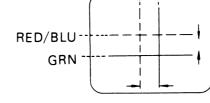


CONVERGENCE MAGNET ASSEMBLY

ADJUSTMENT OF MAGNETS

Figure 15.





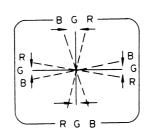
RED/BLU

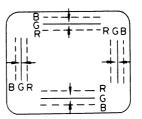
4-POLE MAGNETS MOVEMENT

6-POLE MAGNETS MOVEMENT

GRN

Centre Convergence by Convergence Magnets





INCLINE THE YOKE UP (OR DOWN)

INCLINE THE YOKE RIGHT (OR LEFT)

Circumference Convergence by DEF. Yoke

Figure 16. Dot Movement Pattern

9. GENERAL ALIGNMENT INSTRUCTIONS

9-1. GENERAL

Alignment is an exacting procedure and should be under-taken only when necessary.

The test equipment specified or its equivalent is required to properly perform the alignment procedures which are outlined on the following pages. Use of equipment which does not meet these requirements may result in the inability to properly align the receiver.

It is essential that bias values as specified are maintained during alignment to insure proper results.

9-2. EQUIPMENT TERMINATIONS

Alignment pads are designed for correct matching of the equipment to the circuits involved. Failure to use proper matching will result in responses which cannot be depended upon as representing the true operation of the receiver. The pads should be constructed as compactly as possible with all unshielded leads not in excess of 2.5 cm long.

9-3. SIGNAL OVERLOAD

Use of excessive signal from the sweep generator, can cause overloading of receiver circuits. To determine that this condition is not present and that the response curve is true, turn the sweep generator output to zero and then gradually increase the output until a response is obtained. Further increase of the sweep output should not change the configuration of the response except in amplitude. If the response changes in configuration, just as flattening at the top or dropping below the base line at the bottom, decrease the sweep output to restore the proper configuration. The oscilloscope gain should be as high as possible to maintain a useable pattern with the peak-to-peak values specified, thus requiring a lower output from the sweep generator and less chance of overload.

Insertion of markers from the marker generator should not cause distortion of the response.

9-4. TEST EQUIPMENTS

OSCILLOSCOPE (WIDE BAND)
COLOUR-BAR/DOT/CROSSHATCH GENERATOR
TV SWEEP MARKER ALIGNMENT GENERATOR
VACUUM TUBE VOLTMETER
VOLT-OHM MILLIAMMETER
MARKER GENERATOR
POWER AND AGC BIAS SUPPLY
DIRECT LOW CAPACITY PROBE
SOUND SIGNAL GENERATOR
VIDEO SWEEP GENERATOR
MATCHING PAD (See figure 17)
DEGAUSSING COIL-Demagnetized picture tube and chassis.

MICROSCOPE – Microscope of approximately 12 power for phosphor dot observation in the colour picture tube.

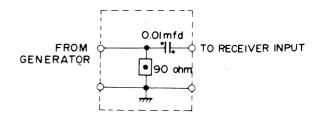


Figure 17. Matching Pad

10. PICTURE I-F SWEEP ALIGNMENT

GENERAL	Refer to figures 18 and 19 for test equipment connection and alignment points.
PRFLIMINARY STEPS	1. Disconnect the I-F cable from the input jack "P501" and the tuner leads from the
	plug "P510" on the Main Board. (See figure 21.)
	2. Supply +12v to terminal "#46" on the Main Board.
	3. Supply $+3.5\sim4.5$ volts bias to terminal "TP-14" on the Main Board fully clockwise.
	4. Turn AGC DELAY Control (R151) on the Main Board fully clockwise.
SWEEP/MARKER GENERATOR	Connect to the input jack "P501" on the Main Board.
	Tune to 25 \sim 40 MHz sweep.
OSCILLOSCOPE	Connect with direct probe to terminal "TP-12" on the Main Board through 100k ohm
~~~	resistor

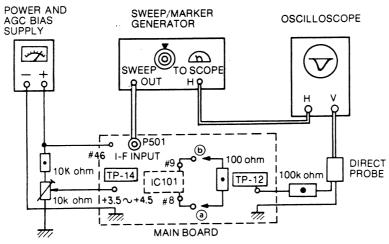


Figure 18. Picture I-F Sweep Alignment

STEP SWEEP/MARKER GENERATOR		ADJUST	REMARKS
	L103 ALIG		jure 19.)
Adjust +3.5~4.5 volts bias to terminal "TP-14" on the Main Board. Detector Coil 32.7 MHz Marker "ON" L103 Adjust L103 for maximum gain at 32.7 MI on SCOPE. (See figure 19.)			
		alignment. (0.1	
I-F Overall Response	34.7 MHz Marker "ON"	L102	Adjust L102 for maximum gain at 34.7 MHz on SCOPE. (See figure 19.)
After completing the above steps, ADJUSTMENT on page 16.	disconnet equipment and adjust th	e AGC DELAY	Control (R151) folloing DELAYED R-F AGC

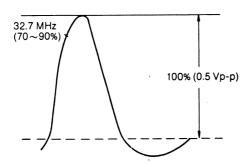


Figure 19. Magnified Response Curve

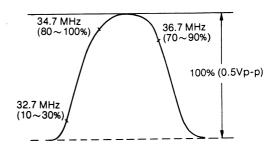
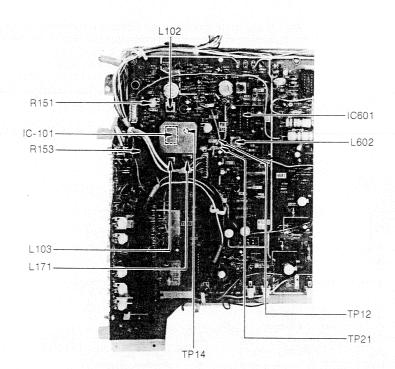


Figure 20. Overall Response Curve



BOTTOM (FOIL) SIDE

TOP VIEW

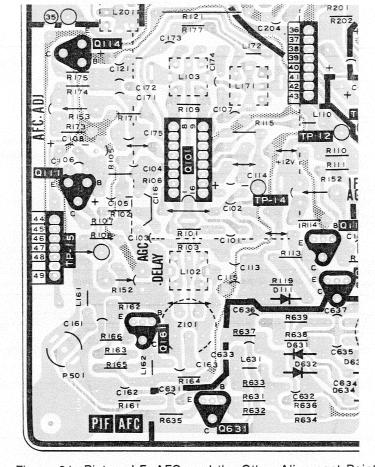
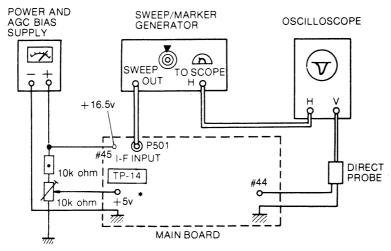


Figure 21. Picture I-F, AFC, and the Other Alignment Point

11. AFC ALIGNMENT

GENERAL	Refer to figure 21 and 22 for alignment points and test equipments connection.
PRELIMINARY STEPS	Follow the same steps as given under PICTURE I-F SWEEP ALIGNMENT on page 21.
	Connect the tuner leads "M510" to socket "P510" on the Main Board.
SWEEP/MARKER GENERATOR	. Connect to the input jack "P501" on the Main Board. Tune to 25 \sim 40 MHz sweep.
OSCILLOSCOPE	. Connect direct probe to terminal #44 on the Main Board.



* Add +5v to TP-14 at AFC Balance Adjustment only.

Figure 22. AFC Alignment

STEP	SWEEP/MARKER GENERATOR	ADJUST	REMARKS
1. AFC Balance	NO SIGNAL	R153	Supply +5 volts bias to terminal "TP-14" on the Main Board. Pull AFC Switch out to the ON position. Connect the ground side of VTVM to Terminal #21 and hot side of pin #1 of ICA73 on the SELECTOR BOARD. Adjust R153 (BALANCE ADJUST) for +0.6 volt reading on meter.
2. Primary fo	32.7 MHz	L171	Remove the power supply (+5 volts) from the terminal "TP-14" on the Main Board. Remove the VTVM. Conncet Direct Probe to Terminal #44 on the Main Board. Adjust L171 for the response shown in figure 23.

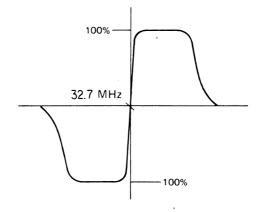
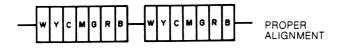


Figure 23. AFC Responses

12. SECAM COLOUR ALIGNMENT

12-1. BELL FILTER ALIGNMENT (See figure 25)

- 1. Receive a colour bar pattern.
- 2. Connect synchroscope to pin 25 of QM01 (TA7621P).
- Adjust LM02 so that each bar of R-Y becomes even respectively.



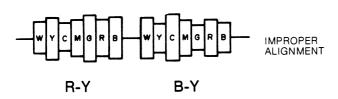


Figure 24.

12-2. SECAM COLOUR KILLER ALIGNMENT

- 1. Receive a colour signal.
- 2. Connect a VTVM to TP-M3.
- 3. Adjust LM03 so the DC voltage is minimum.

12-3. SECAM CHROMA DET. COIL ALIGNMENT (See figure 26)

- 1. Receiver a colour bar pattern.
- Connect synchroscope to terminal M4 on the CHROMA MODULE.
- 3. Adjust LM06 so that non colour part and Horiz Blanking part are on the same level. (R-Y)
- Further, change connection of synchroscope from terminal M4 to terminal M5 and adjust LM07 the same as above.

R-Y

PROPER ALIGNMENT

HORIZ. BLANKING

ALIGNMENT

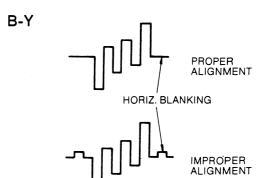


Figure 25.

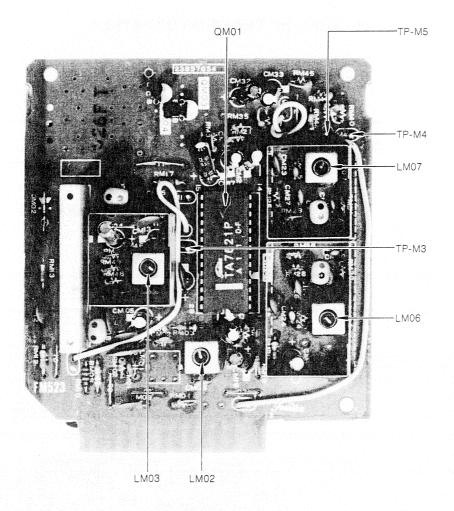


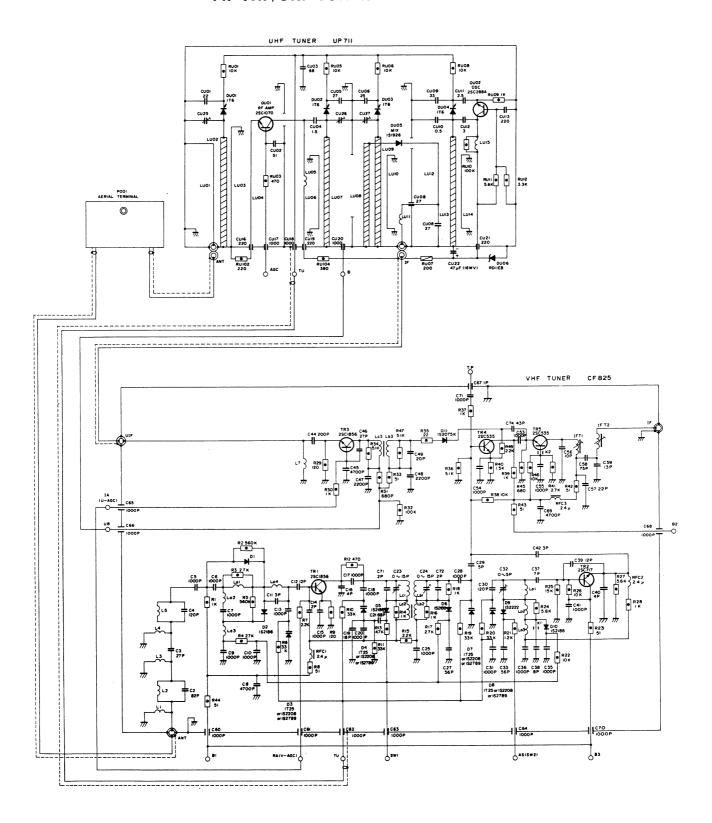
Figure 26. Chroma Module

13. CHROMA TRAP (4.43 MHz) ALIGNMENT

13-1. CHROMA TRAP (L201)

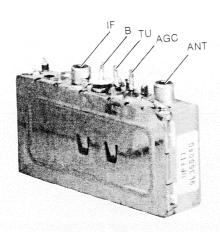
- Tune the receiver telecasting in colour. A Colour bar pattern, for example, PHILIPS pattern is more available for the this alignment.
- Connect oscilloscope through 10:1 probe to TP-47R on the CRT Socket Board.
- Adjust CHROMA trap L201 on the Main Board so as to minimize the chroma component in colour bar area.

14. VHF/UHF TUNER INFORMATION

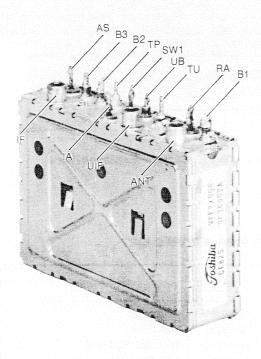


15. VHF/UHF TUNER

15-1. UHF TUNER



15-2. VHF TUNER



16. CABINET EXPLODED VIEW AND REPAIR PARTS LIST

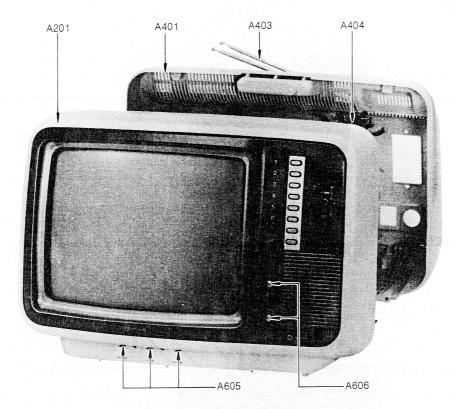


Figure 27. Cabinet Exploded View

CABINET REPAIR PARTS LIST

Schematic Location	Part No.	Description
A201	23824141	Front Cover
A401	23803032	Back Cover
A403	23124076	Telescopic Rod Aerial
A404	23142339	Aerial Balun Trans.
A605	23826858	Knob, COLOUR, BRIGHT,
		VERT. HOLD (3 used)
A606	23826084	Knob, POWER SWITCH/VOLUME,
		AFC/CONTRAST (2 used)

17. CHASSIS PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The shaded areas in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing

AVVREVUATUIBS:

Capacitors..... CD: Ceramic Disk,

PF: Plastic Film, CC: Carbon Composition, MF: Metal Film,

EL: Electrolytic

Resistors CF: Carbon Film,

OMF: Oxide Metal Film, VR: Variable Resistor,

FR: Fusible Resistor

Schematic Location	Part No.	Description
PERI	TV & VIDEO	OUT PUT BOARD
U501	23139436	Peri TV & Video Out Put Board Assembly, PW2377
CAPACITORS		
C271	24635220	EL, 22μF, 35ν
C272,C273	24633101	EL, 100μF, 16v
C295	24212102	CD, 1000pF, 50v
C511	24692104	PF, 0.1μ F, $\pm 5\%$, $50v$
C521	24436330	CD, 33pF, ±5%, 50v
C531	24436390	CD, 39pF, ±5%, 50v
C541	24436270	CD, 27pF, ±5%, 50v
C562,C563) C564	24636010	EL, 1μF, 50v
C565,C571 C572,C573 C671	24633100	EL, 10μF, 16ν
C591,C592) C593	24434030	CD, 3pF, ±0.5pF, 500v
C672	24636229	EL, 2.2μF, 50ν
C673	24634101	EL, 100μF, 25v
C674	24212221	CD, 220pF, ±10%, 50v
C902	24214103	CD, $0.01\mu F$, $\pm 10\%$, $500v$
RESISTORS		
R271,R276 R574,R581 R588	24360153	CF, 15k ohm, 1/8w
R272,R677	24360392	CF, 3900 ohm, 1/8w
R273	24360301	
R274,R567)	24000001	5. 1 550 5mm 17 5m
R674	24360332	CF, 3.3k ohm, 1/8w
R275	24360560	CF, 56 ohm, 1/8w
R278,R284	24360303	
R279,R292)	2-300000	Cr, Con Ching 1/On
R295,R565	24360103	CF, 10k ohm, 1/8w
R280,R283	24360470	CF, 47 ohm, 1/8w
R281,R575)	· ·	
R582,R589 R675	24360101	CF, 100 ohm, 1/8w
R282,R561	24360102	CF, 1000 ohm, 1/8w
R285	24360203	CF, 20k ohm, 1/8w

Schematic Location	Part No.	Description
R286,R576) R583,R590)	24360820	CF, 82 ohm, 1/8w
R287	24360390	CF, 39 ohm, 1/8w
R288	24360100	CF, 10 ohm, 1/8w
R289	24360221	CF, 220 ohm, 1/8w
R290	24360222	CF, 2200 ohm, 1/8w
R291,R528) R538,R548)	24360152	CF, 1500 ohm, 1/8w
R296	24360750	CF, 75 ohm, 1/8w
R521,R531) R541	24380561	CF, 560 ohm, 1/8w
R522,R532) R542	24383223	OMF, 22k ohm, 2w
R523,R533) R543	24381222	OMF, 2.2k ohm, 1/2w
R524,R534) R544	24381683	OMF, 68k ohm, 1/2w
R525,R535) R545,R680)	24360822	CF, 8200 ohm, 1/8w
R526,R536 R563 R571,R572 R578,R579 R585	24360471	CF, 470 ohm, 1/8w
R527,R537 R547,R681 R682	24360272	CF, 2700 ohm, 1/8w
R546,R676 R678	24360681	CF, 680 ohm, 1/8w
R552,R553 R554,R556 R557	24061771	VR, 10k ohm, 0.3w
R564,R573) R580,R587)	24360104	CF, 100k ohm, 1/8w
R568,R569	24360562	CF, 5.6k ohm, 1/8w
R586,R562	24360561	CF, 560 ohm, 1/8w
R592,R593) R594	24946102	CC, 1k ohm, 1/2w
R671	24360333	CF, 33k ohm, 1/8w
R672	24360224	CF, 220k ohm, 1/8w
R673	24360823	CF, 82k ohm, 1/8w
R679	24360123	CF, 12k ohm, 1/8w

Schematic Location	Part No.	Description	Schematic Location	Part No.	Description
COILS AND TRAN	SFORMERS		CM22,CM23	24232102	CD, 1000pF, ±80%, -20%, 50v
L521,L531	00004050	0.11 4.700400 00.11	CM24	24357080	CD, 8pF, ±0.25pF, 50v
L541 }	23261053	Coil, AZ9246G, Choke	CM25	24340080	CD, 8pF, 50v
SEMICONDUCTO	\De		CM26,CM27	24436201	CD, 200pF, ±5%, 50v
IC501		Integrated Circuit, TDA-2530,	CM28,CM29	24436120	CD, 12pF, ±5%, 50v
10301	23119020	MATRIX	CM30	24212681	CD, 680pF, ±10%, 50v
			CM31	24212821	CD, 820pF, ±10%, 50v
Q271	A6319302	Transistor, 2SC1959-Y	CM46	24636478	EL, 0.47μF, 50ν
Q272,Q273			CM50	24436331	CD, 330pF, ±5%, 50v
Q275,Q291			CM61	24692102	PF, 1000pF, ±5%, 50v
Q561,Q571	A6317547	Transistor, 2SC1815-Y	CM63	24212102	CD, 1000pF, ±10%, 50v
Q572,Q573		,	CM64	24617997	EL, 2.2μF, 50ν
Q671,Q672			RESISTORS		
Q673		T 001.1015.V	RM01	24380751	CF, 750 ohm, 1/8w
Q274	A6534045	Transistor, 2SA 1015-Y	RM02.RM42		CF, 2.7k ohm, 1/8w
Q521,Q522			RM03		CF, 470 ohm, 1/8w
Q531,Q532	A6319400	Transistor, 2SC2068	RM04		CF, 100k ohm, 1/8w
Q541,Q542 J			RM07,RM28)	24000104	01 , 100K 011111, 170W
D271,D521	A7246711	Diode, 1S1555 (TV)	RM29	24380152	CF, 1.5k ohm, 1/8w
D522,D531 J			RM12	24360333	CF, 33k ohm, 1/8w
D532,D541	. =	7 8: 1 2 570 01	RM 13		CF, 10k ohm, 1/8w
D542,D561	A/110102	Zener Diode, 0.5Z6.8L	RM15		CF, 390 ohm, 1/8w
D511)			RM16,RM62		CF, 2700 ohm, 1/8w
MISCELLANEOU	S		RM17		CF, 680 ohm, 1/8w
P521	23164790	Plug 10P	RM19		OMF, 150 ohm, 1/2w
P525	23116562	Socket, 21P	RM20		CF, 430 ohm, 1/8w
P551	23164789	Plug, 9P	RM21,RM48		CF, 430 ohm, 1/8w
IC501A	23116947	Socket, 16P	RM24,RM25		CF, 4.3k ohm, 1/8w
			RM30		CF, 680 ohm, 1/8w
			RM31		CF, 330 ohm, 1/8w
SI	ECAM CHR	ROMA MODULE	RM33		CF, 15k ohm, 1/8w
11500	00140000	Secam Chroma Module Assembly,	RM35		CF, 22k ohm, 1/8w
U502	23 146602	FM-523	RM40		CF, 10k ohm, 1/8w
		FIVI-525	RM41		CF, 4.7k ohm, 1/8w
CAPACITORS		00 100 5 50	RM43		CF, 6.2k ohm, 1/8w
CMO1,CM02		CD, 100pF, 50v	RM44		CF, 5.6k ohm, 1/8w
CMO3		CD, 150pF, 50v	RM45		CF, 3.3k ohm, 1/8w
CMO4,CM34	24636010	EL, 1 _µ F, 50v	RM49		CF, 100 ohm, 1/8w
CMO5,CM17	0.4000.400	51 40 5 40	RM54		CF, 150 ohm, 1/8w
CM20,CM21 }	24633100	EL, 10 ₄ F, 16v	RM55		CF, 33k ohm, 1/8w
CM32,CM33)		1	RM61		CF, 1800 ohm, 1/8w
CMO6,CM07	0.46*****	OD 40000 E 1 000 000 50	RM63		CF, 1000 ohm, 1/8w
CM08,CM14 }	24232103	CD, 10000pF, +80%, -20%, 50v	RM64		CC, 2.2M ohm, 1/4w
CM 15)	0.400=:==	DE 17000 E 1501 50	1 111104		CC, 2.2M ohm, 1/4w
CM 13		PF, 47000pF, ±5%, 50v		O: 27340223	00, 2.2W ORM, 1/4W
CM 19	24633330	EL, 33μF, 16ν			

Schematic Location	Part No.	Description
COILS AND TRA	NSFORMERS	
LM02	23272987	Coil, TRF5415, Filter
LM03	23272989	Coil, TRF54 13, Ident Detector
LM04,LM05	23283829	Coil, TRF4829J, Peaking
LM06,LM07	23272988	Coil, TRF5414
LM08,LM09	23283121	Coil, TRF4121J, Peaking
SEMICONDUCT	ORS	
ICM01	B0355900	IC, TA7621P, Secam Demod
QM03,QM04 }	A6317547	NPN, Transistor, 2SC1815-Y
DM02,DM03 }	A7246711	Diode, 1S1555 (TV)
MISCELLANEO	JS	
XM01	23153992	1H, Delay Line, Secam
	POWER	-I BOARD
U801	23139441	Power-I Board Assembly, PW2372
CAPACITORS		
C813	24098011	MP, 0.1µF, ±20%, AC 250v
0010	or 24099971	Paper, 0.1μF, ±20%, AC 450v
		₹ aper, σ. 1μ1 , ±20%, AC 400€
COILS AND TRA		0.11.7050045.11.57
T801	23211984	Coil, TRF3015, Line Filter
MISCELLANEOL	A STATE OF THE STA	
<u>\$</u> F801	23144959	Fuse, 3.15A
F801A	00105100	
	23165102	Fuse Holder for P.C. Board
		-2 BOARD
U802	POWER	-2 BOARD
CAPACITORS	POWER 23139440	-2 BOARD Power-2 Board Assembly, PW2373
CAPACITORS C801	POWER 23139440	-2 BOARD
CAPACITORS	POWER 23139440 24095309	-2 BOARD Power-2 Board Assembly, PW2373
CAPACITORS C801 C802,C803	POWER 23139440 24095309	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160v
CAPACITORS C801 C802,C803 C804,C803	POWER 23139440 24095309 CD, 4700pF, H	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160ν -100, -0%, 160ν EL, 470μF, 160ν
CAPACITORS C801 C802,C803 C804,C803 C806	POWER 23139440 24095309 CD, 4700pF, + 24640985 24636102	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160ν -100, -0%, 160ν EL, 470μF, 160ν
CAPACITORS C801 C802,C803 C804,C803 C806 C821	POWER 23139440 24095309 CD, 4700pF, + 24640985 24636102 24634221	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160v -100, -0%, 160v EL, 470μF, 160v EL, 1000μF, 50v
CAPACITORS C801 C802,C803 C804,C803 C806 C821 C822	POWER 23139440 24095309 CD, 4700pF, + 24640985 24636102 24634221	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160ν -100, -0%, 160ν EL, 470μF, 160ν EL, 1000μF, 50ν EL, 220μF, 25ν
CAPACITORS C801 C802,C803 C804,C803 C806 C821 C822 C823,C824	POWER 23139440 24095309 CD, 4700pF, + 24640985 24636102 24634221	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160ν -100, -0%, 160ν EL, 470μF, 160ν EL, 1000μF, 50ν EL, 220μF, 25ν
CAPACITORS C801 C802,C803 C804,C803 C806 C821 C822 C823,C824 RESISTORS	POWER 23139440 24095309 CD, 4700pF, + 24640985 24636102 24634221 24636479	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160ν -100, -0%, 160ν EL, 470μF, 160ν EL, 1000μF, 50ν EL, 220μF, 25ν EL, 4.7μF, 50ν CF, 10k ohm, 1/8w
CAPACITORS C801 C802,C803 C804,C803 C806 C821 C822 C823,C824 RESISTORS R821,R822	POWER 23139440 24095309 CD, 4700pF, + 24640985 24636102 24634221 24636479 24360103 24360222	-2 BOARD Power-2 Board Assembly, PW2373 PF, 0.1μF, ±20%, 160ν -100, -0%, 160ν EL, 470μF, 160ν EL, 1000μF, 50ν EL, 220μF, 25ν EL, 4.7μF, 50ν CF, 10k ohm, 1/8w

Schematic Location	Part No.	Description
R852	24061954	VR, 2k ohm, 1/2w, B-Type
R880	24000987	Posistor, 10 ohm, 125v
SEMICONDUCTO	RS	
Q821	A6841475	NPN, Transistor, 2SD525Y
Q822,Q823	A6317547	Transistor, 2SC1815-Y
D801,D802 } D803,D804 }	A7568719	Diode, 1S1887
D821,D822	A7568615	Diode, 1S1886
D823	A7286120	Zener Diode, 02Z6.2w, FA-1
MISCELLANEOU	s	
F802	23144925	Fuse, 1.2A
F802A,F803A	23165102	Fuse holder for P.C. Board
F803	23144969	Fuse, 0.63A
	007.000	VET DOADD
		KET BOARD
U901	23139439	CRT Socket Board Assembly, PW2374
CAPACITORS		
C901	24210331	CD, 330pF, ±20%, 1kv
RESISTORS		
R901,R902 \	34046303	CC, 3900 ohm, 1/2w
R903 ∫	24940392	00, 3300 0mm, 172W
MISCELLANEOU	S ,	
V901A	23116620	CRT, Socket
	MAIN	BOARD
U902	23139438	Main Board Assembly, PW2375
CAPACITORS		·
C101,C104)		
C106,C107	•	
C114,C161		
C162,C163		
C171,C172		
C409,C502		
C604,C606 }	24232103	CD, $10000pF$, $+80\%$, -20% , $50v$
C610,C611		
C612,C631		
C632,C633		
C634,C635		
C636,C637		
C640 J		

Schematic Location	Part No.	Description
C102,C601	24212102	CD, 1000pF, ±10%, 50v
C103	24602104	PF, 0.1μ F, $\pm 10\%$, $50v$
C105,C108	24633330	EL, 33μF, 16v
C110	24436201	CD, 200pF, ±5%, 50v
C112	24632470	EL, 47μF, 10ν
C113	24617982	EL, 10µF, 16v
C115	24635220	EL, 22μF, 35v
C116	24692104	PF, 0.1μF, ±5%, 50v
C121	24633331	EL, 330μF, 16v
C173,C174	24436758	CD, 0.75pF, 50v
C175	24538224	PF, 0.22µF, ±5%, 50v
C201,C231 C233	24633100	EL, 10μF, 16ν
C203	24632101	EL, 100μF, 10ν
C204	24436470	CD, 47pF, ±5%, 50v
C221	24436471	CD, 470pF, ±5%, 50v
C222,C224	04400101	OD 100°E + 5% 50"
C605	24436101	CD, 100pF, ±5%, 50v
C232,C241		
C301,C308		
C404,C406 }	24636010	EL, 1µF, 50v
C603,C608		
C613		
C242	24636100	EL, 10μF, 50v
C302	24868103	PF, 0.01μF, ±10%, 50v
C303	24212471	CD, 470pF, ±10%, 50v
C304	24692222	PF, 2200pF, ±5%, 50v
C305	24692153	PF, 0.015μF, ±5%, 50v
C306	24692224	PF, 0.22µF, ±5%, 50√
C307	24212392	CD, 0.0039μ F, $\pm 10\%$, $50\vee$
C309	24617981	EL, 2.2μF, 50v
C310,C402	24636478	EL, 0.47µF, 50v
C311	24636101	EL, 100µF, 50v
C312	24635100	EL, 10µF, 35v
C313	24640989	EL, 4.7μF, 160v
C314	24828203	
C316	24636221	EL, 220µF, 50v
C317	24617997	EL, 2.2µF, 50v
C318	24219332	CD, 3300pF, ±20%, 500v
C401	24692822	PF, 0.0082µF, ±5%, 50v PF, 5600pF, ±5%, 50v
C403,C472	24692562	PF, 3600pF, ±5%, 50v PF, 3600pF, ±5%, 50v
C405	24598362 24217102	
C407 C408,C810	24642339	
C408,C810	24212152	•
	2-7212102	55, 1000pi, ± 10/0, 504

		·
Schematic Location	Part No.	Description
Location		
C413	24214222	CD, 2200pF, ±10%, 500v
C414	24828473	PF, 0.047μF, ±5%, 250v
C416	24214681	CD, 680pF, ±10%, 500v
C431	24214221	CD, 220pF, ±10%, 500v
C432	24644100	EL, 10μF, 250v
∆ C440 🚁 🖳	24095517	MT, 7500pF, ±5%, 1,6kv
∆ C442	24828204	PF, 0.2µF, ±5%, 200v
∆ C443	24828104	PF, 0.1 _H F, ±5%, 200V
C445	24833563	$PF, 0.056\mu F, \pm 10\%, 200v$
C448	24640992	EL, 33 _µ F, 160v
C471	24617998	EL, 1µF, 50v
C481	24642100	EL, 10 _µ F, 160v
C482	24214561	CD, 560pF, ±10%, 500v
C483,C622	24642220	EL, 22μF, 160v
C501	24212681	CD, 680pF, ±10%, 50v
C602	24633220	EL, 22μF, 16ν
C607	24635479	EL, 4.7μF, 50ν
C609	24633470	EL, 47μF, 16ν
C614	24828683	PF, 68000pF, ±5%, 200v
C615	24436300	CD, 30pF, ±5%, 50v
C616,C617	24214102	CD, 1000pF, ±10%, 500v
C618	24085040	
C621	24633101	
C808	24642330	EL, 33 _µ F, 160v
C809	24634102	EL, 1000µF, 25v
C830		EL, 220μF, 16v
RESISTORS	24260222	CE 2200 ohm 1/8w
R101,R109		CF, 2200 ohm, 1/8w
R102,R308	24360393	CF, 39k ohm, 1/8w
R103,R106	24360331	CF, 330 ohm, 1/8w
R107,R333 J	04000404	CE 100k ohm 1/8:
R105		CF, 100k ohm, 1/8w
R108,R306	24360242	CF, 2400 ohm, 1/8w
R110,R214	24360272	CF, 2700 ohm, 1/8w
R223		
R111.R175	24360332	CF, 3.3k ohm, 1/8w
R617 J		
R112,R508	24360682	CF, 6800 ohm, 1/8w
R607		
R113,R204		
R217,R307	24360392	CF, 3900 ohm, 1/8w
R616		
R114,R242	24360302	CF, 3k ohm, 1/8w
R315	000002	,,-,

Schematic Location	Part No.	Description		Schematic Location	Part No.	Description
R115.R235)	0.4000404	05 400(-) 4/0		R231,R232		
R513	24360104	CF, 100k ohm, 1/8w		R238,R305		
R118,R803	24946184	CC, 180k ohm, 1/2w		R502,R504	24360472	CF, 4700 ohm, 1/8w
R119,R225)	0.4060000	CF, 22k ohm, 1/8w		R506,R604		
R637	24360223	Or , 22k OHHI, 170W		R608		
R121	24383680	OMF, 68 ohm, 2w		R237,R314	24360473	CF, 47k ohm, 1/8w
R151	24061781	VR, 50k ohm, 0.3w		R623	24360753	CF, 75k ohm, 1/8w
R152	24061786	VR, 1k ohm, 0.3w		R243		CF, 130k ohm, 1/8w
R153	24061780	VR, 100k ohm, 0.3w		R661		CF, 82k ohm, 1/8w
R161,R203 \	24360101	CF, 100 ohm, 1/8w		R244		CF, 150k ohm, 1/8w
R241,R603∫	24300101	01, 100 0.1111, 17011		R251		VR, 10k ohm, 0.3w
R162,R205				R252		VR, 20k ohm, 0.3w
R206,R215				R301		CF, 200 ohm, 1/8w
R233,R320				R302		CF, 560k ohm, 1/8w
R472,R473	24360102	CF, 1000 ohm, 1/8w		R304,R515		CF, 1300 ohm, 1/8w
R602,R612				R309		CF, 240k ohm, 1/8w
R632,R638				R310	- '	CF, 680k ohm, 1/8w
R639				R311		CF, 36k ohm, 1/8w
R163,R224	24360562	CF, 5.6k ohm, 1/8w		R313		CF, 24k ohm, 1/8w
R631	2 1000002	6 , 7 6 , 6 , 7 7		R316		CF, 9.1k ohm, 1/8w
R164,R633	24360221	CF, 220 ohm, 1/8w		R317,R318		OMF, 1.2k ohm, 1/2w
R634)				R321,R322		CF, 6.2k ohm, 1/8w
R165,R211)	24360561	CF, 560 ohm, 1/8w		R323,R481		MF, 2.7 ohm, 1w
R601)				R327		FR, 10 ohm, 0.5w
R166,R635	24360270	CF, 27 ohm, 1/8w		R328		OMF, 10 ohm, 1w
R171,R202			1	R330		CF, 200k ohm, 1/8w
R441,R442	24360103	CF, 10k ohm, 1/8w		R352	24061769	VR, 50k ohm, 0.3w
R509,R605 R690				R402,R507) R692	24360183	CF, 18k ohm, 1/8w
R173,R216)	24360273	CF, 27k ohm, 1/8w		R405	24360363	CF, 36k ohm, 1/8w
R470	24360273	OF, 27 K OHIII, 170W		R406	24378154	CF, 150k ohm, 1/8w
R174,R471	24360683	CF, 68k ohm, 1/8w		R407	24381391	OMF, 390 ohm, 1/2w
R177	24360100	CF, 10 ohm, 1/8w		R408,R482	24382223	OMF, 22k ohm, 1w
R201,R234 \	24360563	CF, 56k ohm, 1/8w		R409	24384103	
R303,R312 J	2400000	01, 00K01111, 1/0#		R410	24000947	OMF, 15k ohm, 1/2w
R207,R514)	24360153	CF, 15k ohm, 1/8w		R411	24360430	CF, 43 ohm, 1/8w
R636				R415	24946272	
R221		CF, 1500 ohm, 1/8w		R416	24384242	
R212		CF, 1600 ohm, 1/8w		R428	24946220	
R213	24360821	CF, 820 ohm, 1/8w		R444	24982109	
R222,R226)	24360123	CF, 12k ohm, 1/8w		R451	24061783	VR, 10k ohm, 0.3w
R511 J		,		R452	24061782	
R227,R331				R474	24327363	
R403,R404 }	24360362	CF, 3600 ohm, 1/8w		R475	24383471	OMF, 470 o hm, 2w
R691) R210	24360162	CF, 1.6k ohm, 1/8w		R477,R501 } R503,R505 }	24360471	CF, 470 ohm, 1/8w

AFT EO, CHROMA 2, Sync, SC1815-Y
EO, CHROMA 2, Sync,
2, Sync,
•
SC1815-Y
SC388A-TM
0 1 101 F V
SA1015-Y
SC2229-0
SC2073
SA940
SC2068 (FA-1)
SC2230-G
SC2230-Y
SC2229-Y
·V)
?114A
V)
211A
\-1
6.2w, FA-1
2

Schematic Location	Part No.	Description
MISCELLANEOUS		
P520	23164788	Plug 8P
P650	23163164	Module Socket, 13P
IC101A,IC201A)	23116947	IC Socket, 16P
IC301A,IC601A)	23110947	IC Socket, for
S401	23146999	Relay, TSB4001
W201	23250971	Delay Line, TRF2037
Z101	A5610910	PSF, F1028B
Z601	A5613020	SSF, F1328
	SELECT	OR BOARD
UA01	23139437	Selector Board Assembly, PW2376
CAPACITORS		
CA11,CA12	24340121	CD, 120pF, ±5%, 50v
CA13 }	24636010	EL. 1µF, 50v
CE10,CE23)		
CA14		EL, 47μF, 16ν
CA15	24602473	PF, 0.047μF, ±10%, 50v
CA16,CA20		
CA30,CA31		
CA32,CE02	24232103	CD, 10000pF, +80%, -20%, 50v
CE03,CE04		
CE05,CE09		
CE20	0.40.4.400	FL 40 F 400
CA21		EL, 10μF, 100v
CA22	24602472	PF, 0.0047μF, ±10%, 50v
CA40,CA41	24436330	•
CA42,CA46	24617999	
CA43	24602473	PF, 0.047μF, ±10%, 50v
CA44	24602124	
CA45	24602154	
CE01	24633100	
CE06	24640978	
CE07	24602333	, , , – ,
CE08		PF, 0.1μF, ±10%, 50ν
CE21,CE24	24641221	
CE22	24635220	LL, ΔΖ μ Γ, 33 ν
RESISTORS		
RA09,RA77	24360103	CF, 10k ohm, 1/8w
RA10,RA60	24380103	CF, 10k ohm, 1/8w
RA76 J		
RA12,RA37) RA44	24380682	CF, 6.8k ohm, 1/8w

Schematic Location	Part No.	Description
RA13	24380133	CF, 13k ohm, 1/8w
RA14	24360204	CF, 200k ohm, 1/8w
RA15,RA79	24380393	CF, 39k ohm, 1/8w
RA16	24380224	CF, 220k ohm, 1/8w
RA17	24360680	CF, 68 ohm, 1/8w
RA 18	24360101	CF, 100 ohm, 1/8w
RA19	24380123	CF, 12k ohm, 1/8w
RA20	24360132	CF, 1.3k ohm, 1/8w
RA21	24380362	CF, 3.6k ohm, 1/8w
RA24	24381221	OMF, 220 ohm, 1/2w
RA26	24917102	CF, 1k ohm, 1/8w
RA30, RA34	24380363	CF, 36k ohm, 1/8w
RA31	24360154	CF, 150k ohm, 1/8w
RA32,RA33	24360183	CF, 18k ohm, 1/8w
RA35	24380154	CF, 150k ohm, 1/8w
RA36	24360123	CF, 12k ohm, 1/8w
RA40,RA41	24380433	CF, 43k ohm, 1/8w
RA42,RA43	24380102	CF, 1k ohm, 1/8w
RA45	24380113	CF, 11k ohm, 1/8w
RA46	24380163	CF, 16k ohm, 1/8w
RA47,RA49	24380273	CF, 27k ohm, 1/8w
RA48	24380432	CF, 4.3k ohm, 1/8w
RA50	24360512	CF, 5.1k ohm, 1/8w
RA51	24060763	VR, 100k ohm, 1/10w
RA52,RA89	24380223	CF, 22k ohm, 1/8w
RA53,RA70)	0.4000400	05 401 1 4/0
RA71	24380183	CF, 18k ohm, 1/8w
RA72,RA73	24380473	CF, 47k ohm, 1/8w
RA74,RA75)		
RA84,RA86	24380104	CF, 100k ohm, 1/8w
RA87,RA88		
RA78,RA80	24380333	CF, 33k ohm, 1/8w
RA81	24380683	CF, 68k ohm, 1/8w
RA82	24380303	CF, 30k ohm, 1/8w
RA85	24360104	CF, 100k ohm, 1/8w
RA90	24941475	CC, 4700k ohm, 1/4w
RA98	24380752	CF, 7.5k ohm, 1/8w
RA99	24360273	CF, 27k ohm, 1/8w
RE01	24381363	OMF, 36k ohm, 1/2w
RE02	24383123	OMF, 12k ohm, 2w
RE03	24381471	OMF, 470 ohm, 1/2w
RE20	24383103	OMF, 10k ohm, 2w
RE21	24965152	OMF, 1500 ohm, 3w
RE22	24383392	OMF, 3.9k ohm, 2w
RE23	24982109	MF, 1 ohm, 1/2w

Schematic Location	Part No.	Description			
COILS AND TRANSFORMERS					
LA01	23283220	Coil, PL-22, Peaking			
SEMICONDUC'	rors				
ICA01	B0410045	LSI, TC9002CP, Digital Control			
ICA02	B0428410	IC, TMM841P, Memory			
ICA03	B0324721	IC TA7315BP Band Switch			
ICE01	B0355810	IC, TA7619AP, Memory Control			
QA04,QA05)					
QA07,QA08					
QA09,QA43					
QA70,QA71 }	A6317547	NPN Transistor, 2SC1815-Y			
QA74,QA75					
QA76,QA77					
QA78					
QA06	A678970A	NPN Transistor, 2SC1569			
QA40,QA41	A6708371	NPN Transistor, 2SC383TM			
QA42	A6534045	PNP Transistor, 2SA1015-Y			
QA73	B0470662	Integrated Circuit, TC4066BP			
QE10	A671656A	NPN Transistor, 2SC495-Y			
QE11	A6532320	PNP Transistor, 2SA940			
DA09,DA10)					
DA11,DA12					
DA13,DA14					
DA15,DA17					
DA18,DA70	A7246711	Diode, 1S1555 (TV)			
DA71,DA72		. ,			
DA73,DA76					
DA77,DA78					
DE10,DE12 J	.=000.400	7 5: 1 2072 014 51 4			
DA75	A7286120	Zener Diode, 02Z6.2W, FA-1			
DE07,DE08	A7568300	Diode, 1S1835			
DE09)	A71106E2	Zones Diodo 05704H			
DE11	A7110653 or A7110652				
DEGO					
DE20	23115878	Zener Diode, μPC574JC			
MISCELLANE					
P505	23164783	Plug 3P			
P508	23164786	Plug 6P			
ICA01A	23116843	IC, Socket, 42P			
ICA02A,ICA7		IC Socket, 14P			
ICE01A	23116947	IC Socket, 16P			
ZA01,ZA20	24000944	•			
ZA03,ZA21	24094578				
		+80%, -20%, 50v			

Schematic Location	Part No.	Description
SA20	23145890	Push Switch
SA21	23145889	Push Switch
	AFT SWIT	CH BOARD
UA04	23139311	AFT Switch Board Assembly, PW2539
CAPACITORS		
CA47	24212561	CD, 560pF, ±10%, 50v
CA48	24692222	PF, 2200pF, ±5%, 50v
CA49	24636010	EL, 1μF, 50v
RESISTORS		
RA91	24380362	CF, 3.6k ohm, 1/8w
RA92	24380103	CF, 10k ohm, 1/8w
RA93	24380102	CF, 1k ohm, 1/8w
RA94		CF, 100 ohm, 1/8w
RA95,RA96		CF, 22k ohm, 1/8w
RA97	24380473	CF, 47k ohm, 1/8w
SEMICONDUCT	ORS	
QA79,QA81	A6317547	NPN Transistor, 2SC1815-Y
QA80	A6534045	PNP Transistor, 2SA1015-Y
MISCELLANEOU	JS	
		Plug 3P

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The shaded areas in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

Schematic Location	Part No.	Description	
COMPONENTS NOT MOUNTED ON P.W. BOARDS			
CAPACITORS			
C191,C192)	0.400004.0	FL 4 5 50.	
C194	24636010	EL, 1μF, 50v	
C193	24867104	PF, 0.1μF, ±5%, 50v	
C195	24636479	EL, 4.7µF, 50v	
∆ C463	24212222		
<u>∧</u> C464	24442681	CD, 680pF, ±10%, 2kv	
RESISTORS			
. R191,R262	24360103	CF, 10k ohm, 1/8w	
R 192	24360222	CF, 2200 ohm, 1/8w	
R193	24360272	CF, 2700 ohm, 1/8w	
R253	24060170	VR, 10k ohm, 1/5w	
R254	24060757	VR, 10k hom, 1/5w	
R261	24360752	CF, 7500 ohm, 1/8w	
R351	24058991	VR, 200k ohm, 1/5w	
R555	24058997	VR, 2k ohm, 1/5w	
R651	24055981	VR, 10k ohm, 1/2w	
		(included in S801)	
R661	24946470	CC, 47 ohm, ±10%, 1/2w	
R810,R811	24007958	Cement, 200 ohm,	
		15W/6.8 ohm, 5w	
COILS AND TRA	NSFORMERS		
∆ L462	23227915	Deflection Yoke TDY3145A	
	or 23227914	Deflection Yoke, TDY3145B	
L901	23200933	Degausing Coil, TSB2086	
T661	23216968	Transformer, TSP1039, Speaker	
∆ T802	23213935	Transformer, TPW1176, Power	
SEMICONDUCT	ORS		
∧ Q404	A6847905	NPN Transistor, 2SD869	
Q801	A6846004	NPN Transistor, 2SD777 (FA-3)	
MISCELLANEOU	IS		
P001	23142756	Aerial Terminal Board, AT-773T	
P661	23163061	Earphone Jack	
P801	23176267	Power Cord	
P802	23116944	Socket, Main Voltage Adjust	
P802A	23164961	Plug, Main Voltage Adjust	
S501	24060757	VR, 10k ohm, 1/5w	
		(included in R256)	
S801	24055981	Power Switch	
		(included in R651)	
V901M	23102989	Purity Magnet, MAG1006	
W661		A Speaker, SPK1026	
∆ Z411	23115694	and a recommendation of the property of the pr	

Schematic Location	Part No.	Description
Z411A,Z411B	23192985	Insulator Cap
Z411C		Insulator Cap
UA02	23145882	Key Board 8 position
CCESORY		
Y101	23991967	
Y105	23152002	Earphone
ICTURE TUBE	No. of a Co., a code of Change and Co., and Co., and Co.	and the design of the same of
V901		Picture Tube 370HZB22 (VY)
H001		UHF Tuner UP-711
H002	23121853	VHF Tuner CF825

OBSERVATION OF VOLTAGES AND WAVEFORMS

- 1. Voltages read with VTVM from point shown to chassis ground, line voltage 230/115 volts, colour bar signal.
- 2. Voltages reading may vary ±20%
- The schematic shown is representative only.
- 4. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
- 5. Check FINE TUNING, AGC, BRIGHTNESS, CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position.
- 6. Waveforms are taken using a standard colour bar signal

NOTES:

- 1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit
- 2. The circuits subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

- 1. Resistance is shown in ohm, k = 1,000, M = 1,000,000.
- 2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in mfd and the values more than 1 in pF.
- 3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in µH, and the values less than 1 in H.

RESISTOR

Туре	Mark	
Carton Composition	S	
Oxide Metal Film	R	
Insulated Carbon Film	р	
Wire Wound	w	
Cement	No Mark	
Variable Resistor	-(\$\dot\)-	
Positive Thermistor	-(\(\frac{1}{2}\)	
Negative Thermistor	-125	

10 W -(10)--[[3]-15 W

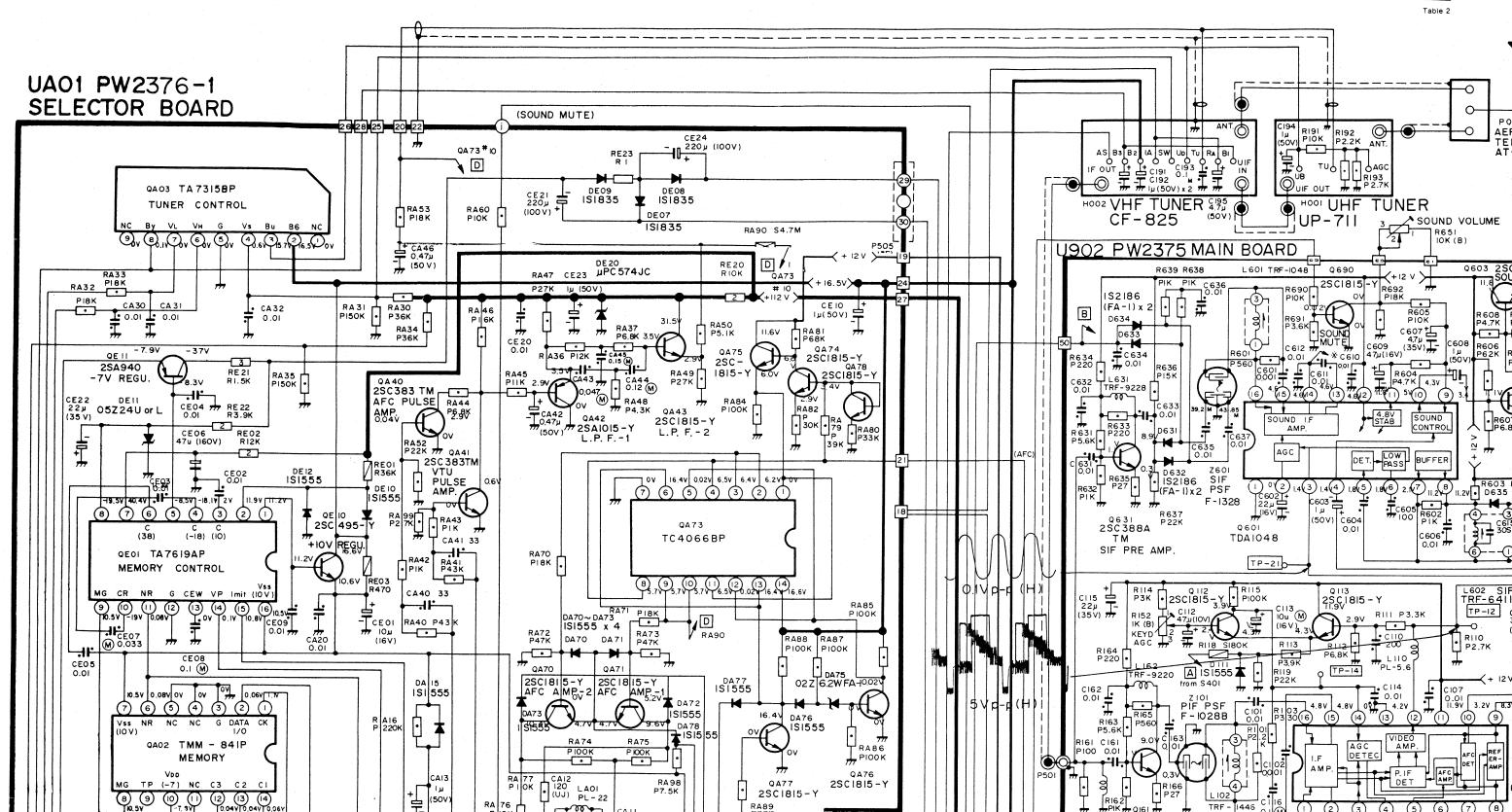
Watt

----16 W $\overline{}$ 1 8 W 1 4 W ---1.2 W -----[2]-

Mark

CAPA

20 W -[20-25 W -[25]-



PRESSION UE OF RESISTOR, CAPACITOR and INDUCTOR

Inless otherwise noted in schematic, all inductor values more than expressed in μ H, and the values less than 1 in H

Туре	Mark
Carton Composition	S
Oxide Metal Film	R
Insulated Carbon Film	Р
Wire Wound	w
Cement	No Mark
Variable Resistor	-(2)-
Positive Thermistor	-42}-
Negative Thermistor	-122}-
	Table 1

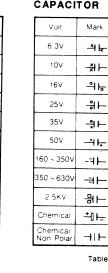
RESISTOR

	_	CAPACI	TOR
Mark		Voit	Mark
		6.3V	-4 k
-		10V	- #1
-⊠-		16V	ના
-🔼-		25V	읡
		35∨	귀
-[2]-		50V	-4 h
-[3]-		160 ~ 350V	-11-
-(35)-		350 ~ 630V	극타
-(10)-		2 5KV	믦
-[15]-		Chemical	∸ 0 ⊦.
-[20]-		Chemical Non Polar	-111
-[25]-			Tat

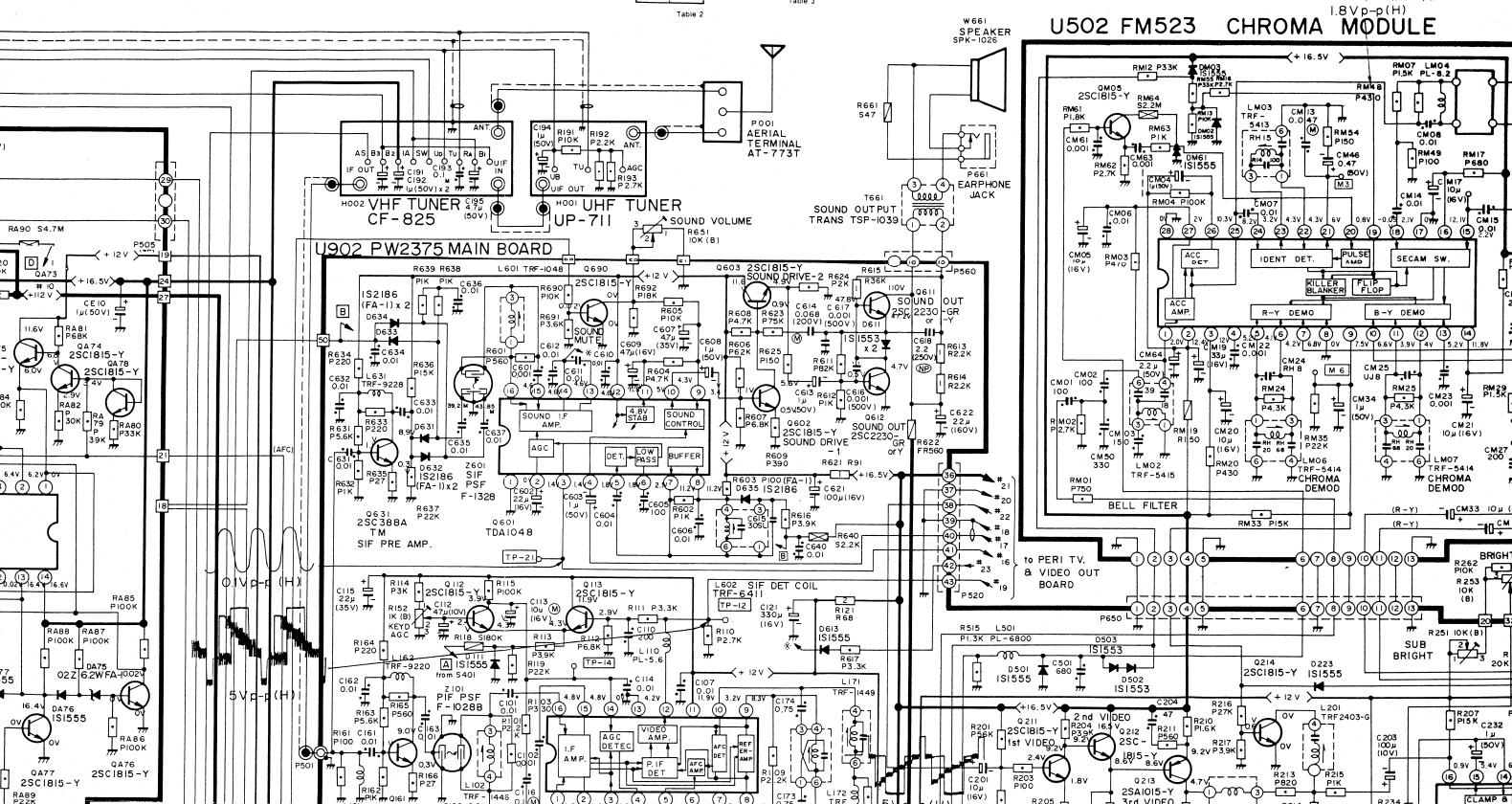
2 W

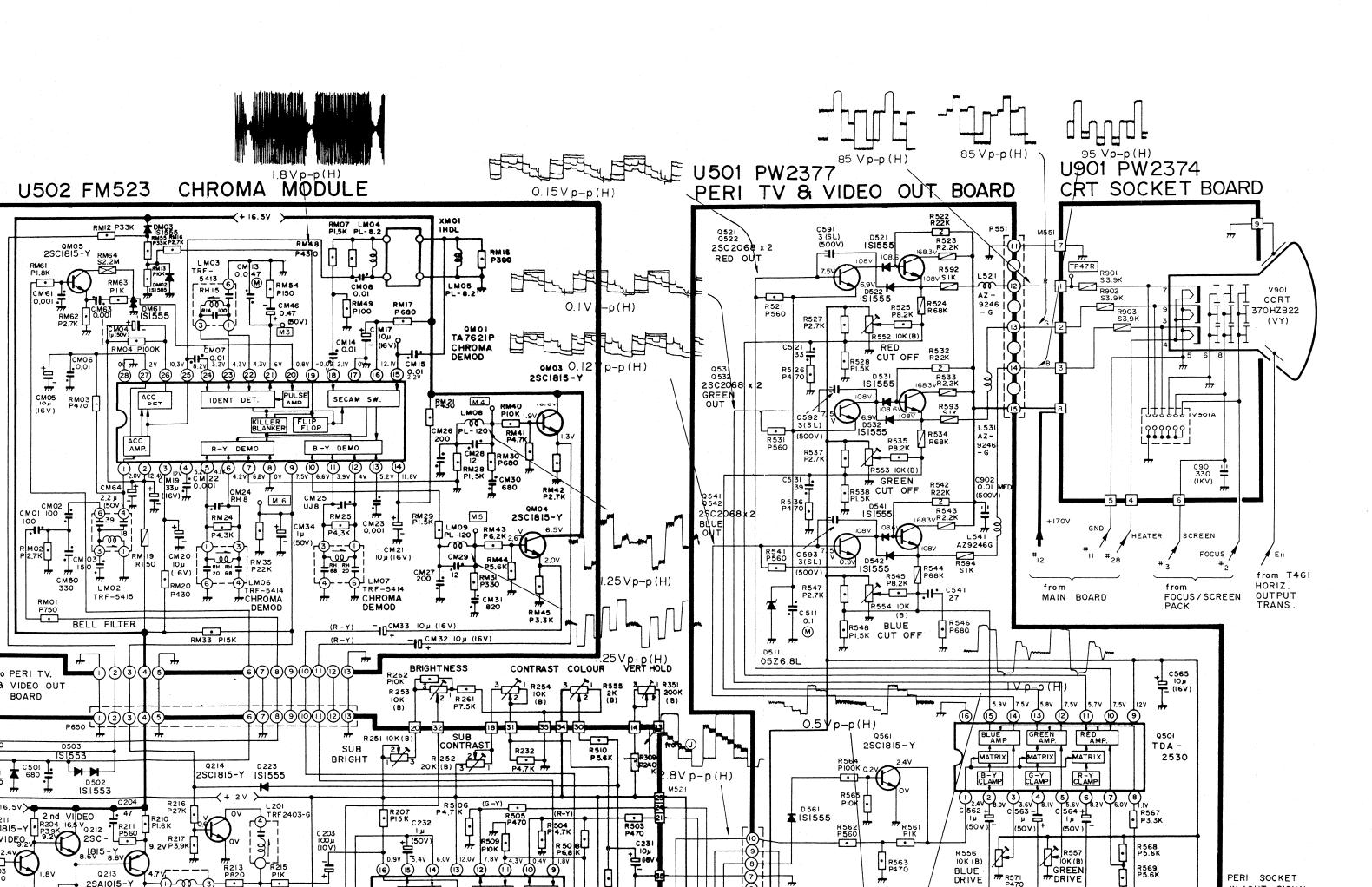
5 W

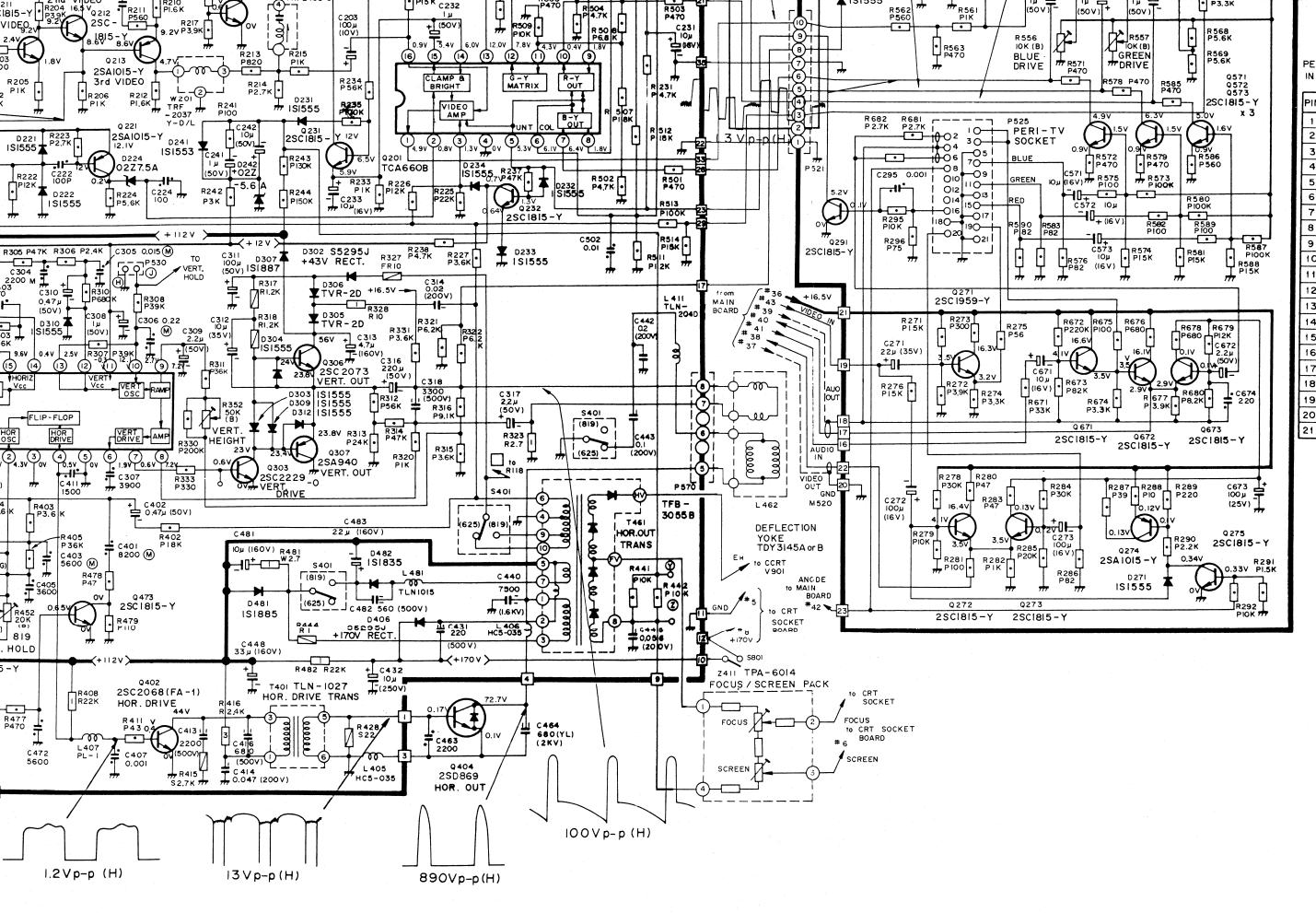
15 W 20 W 25 W





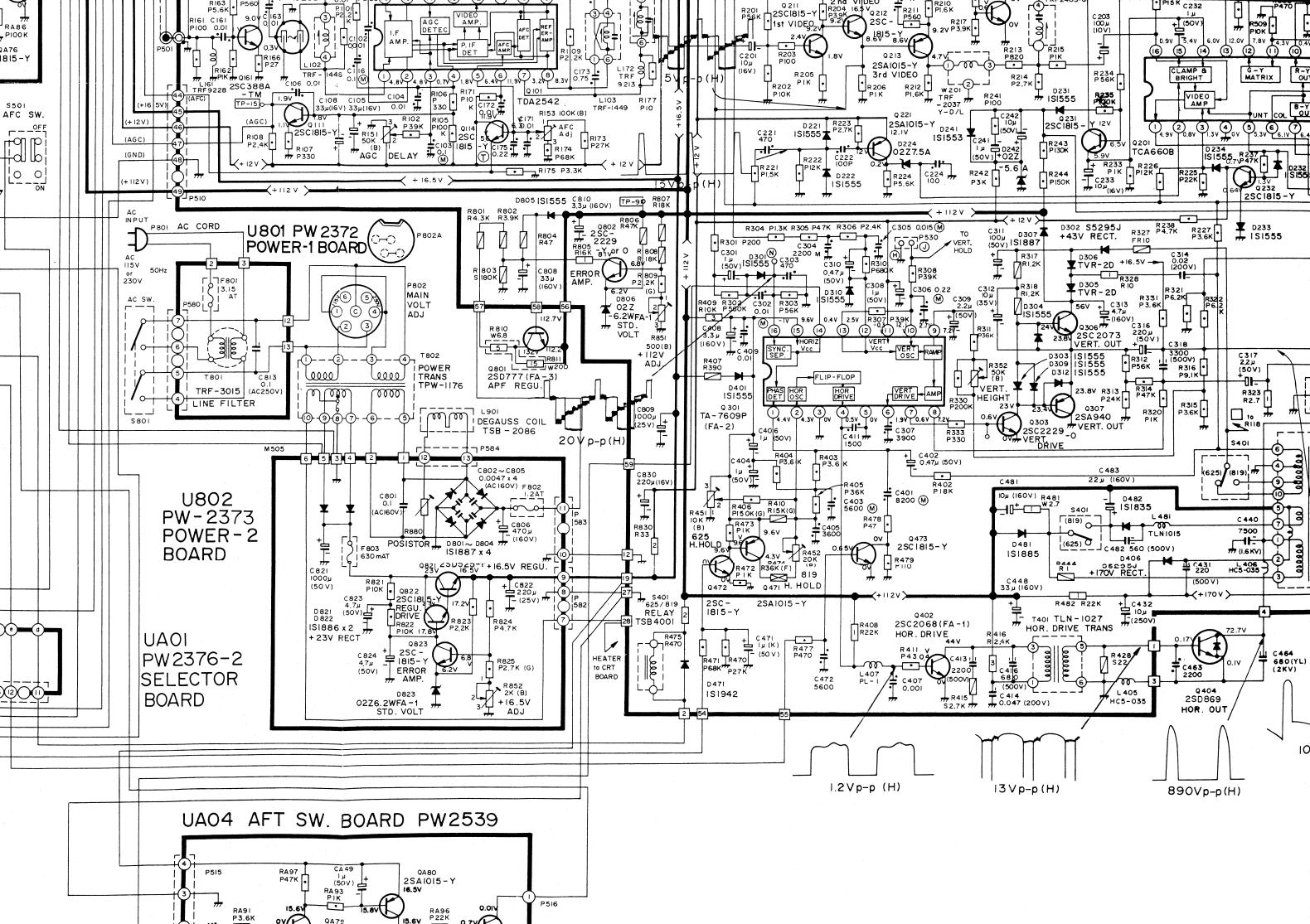


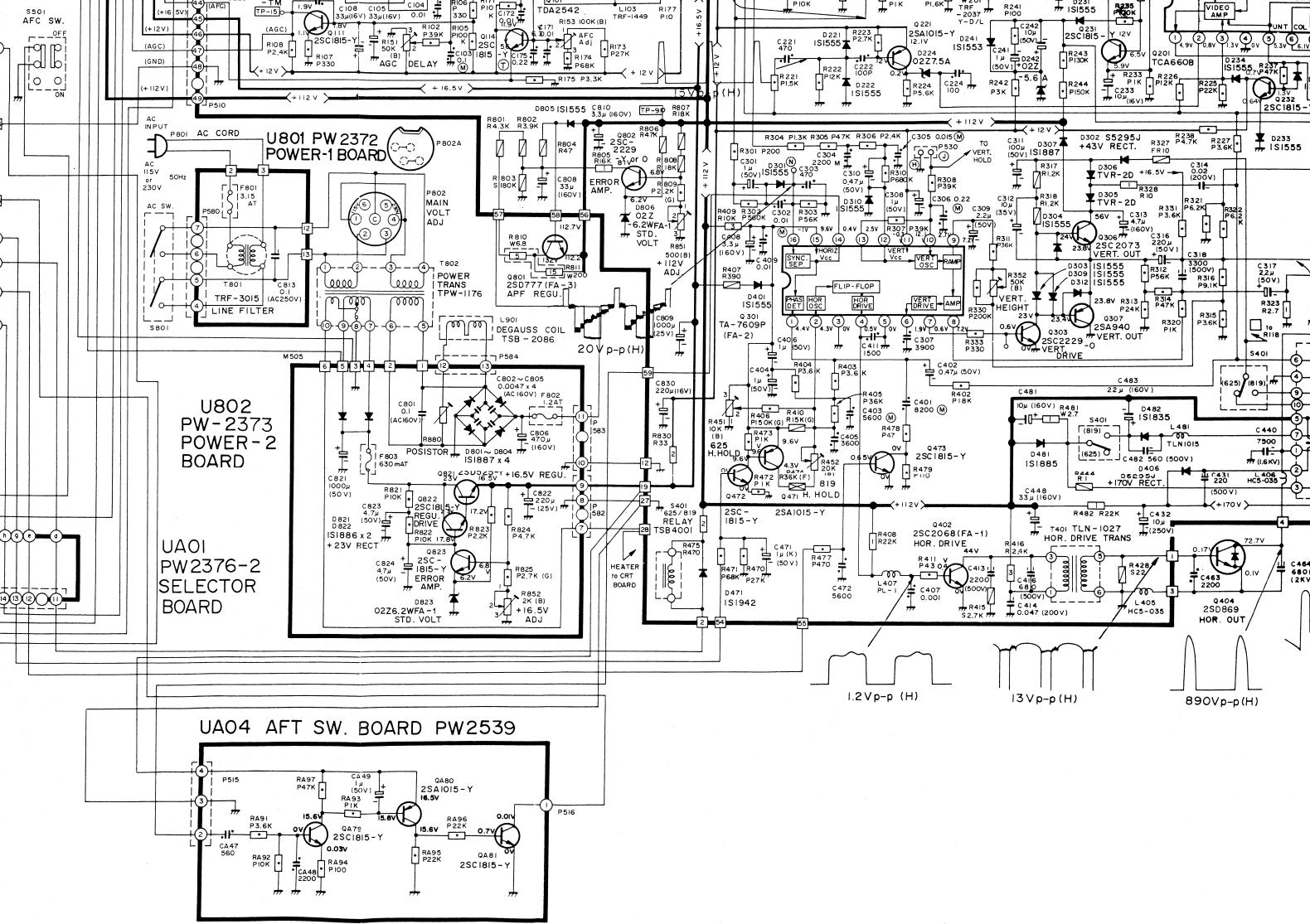


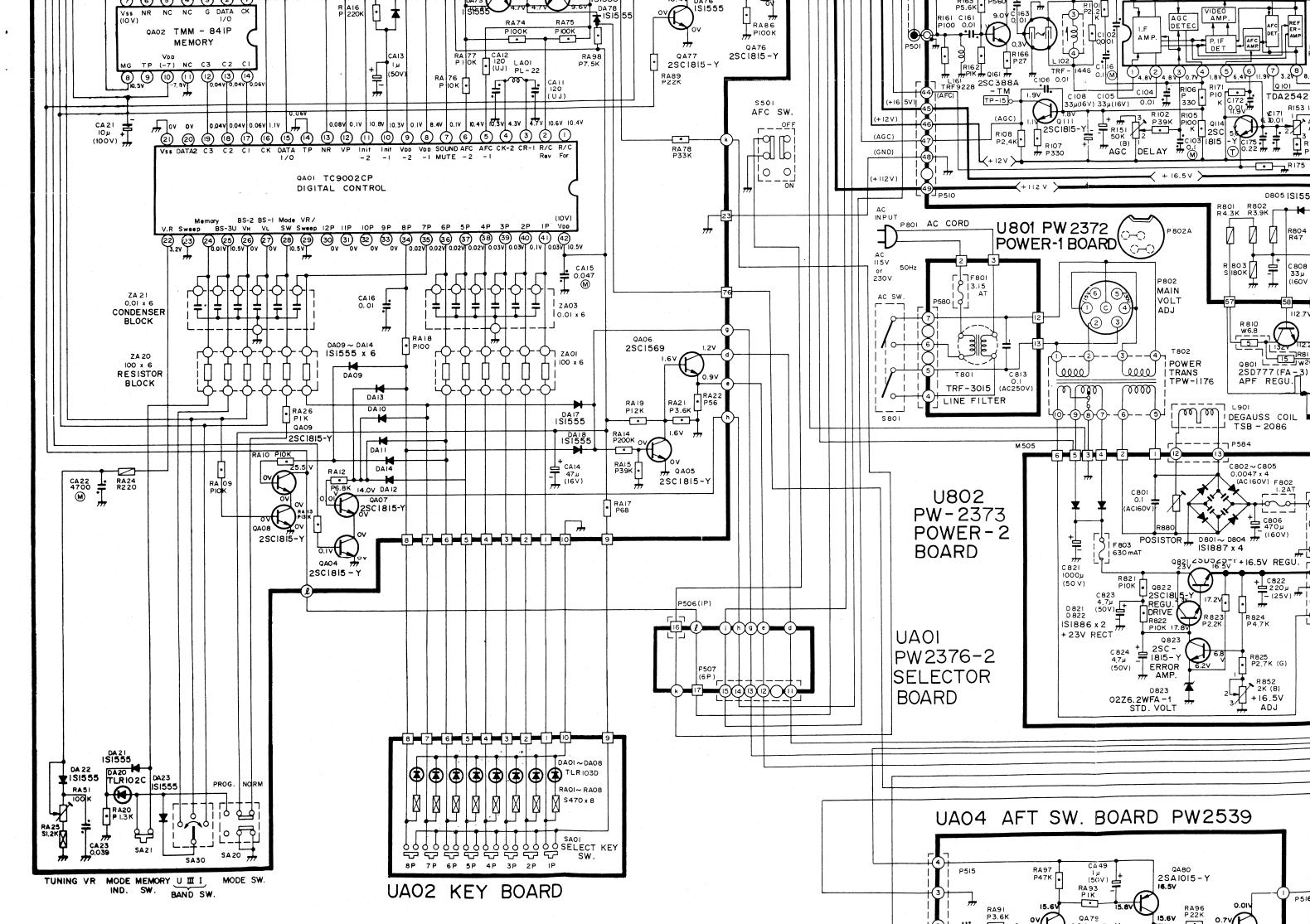


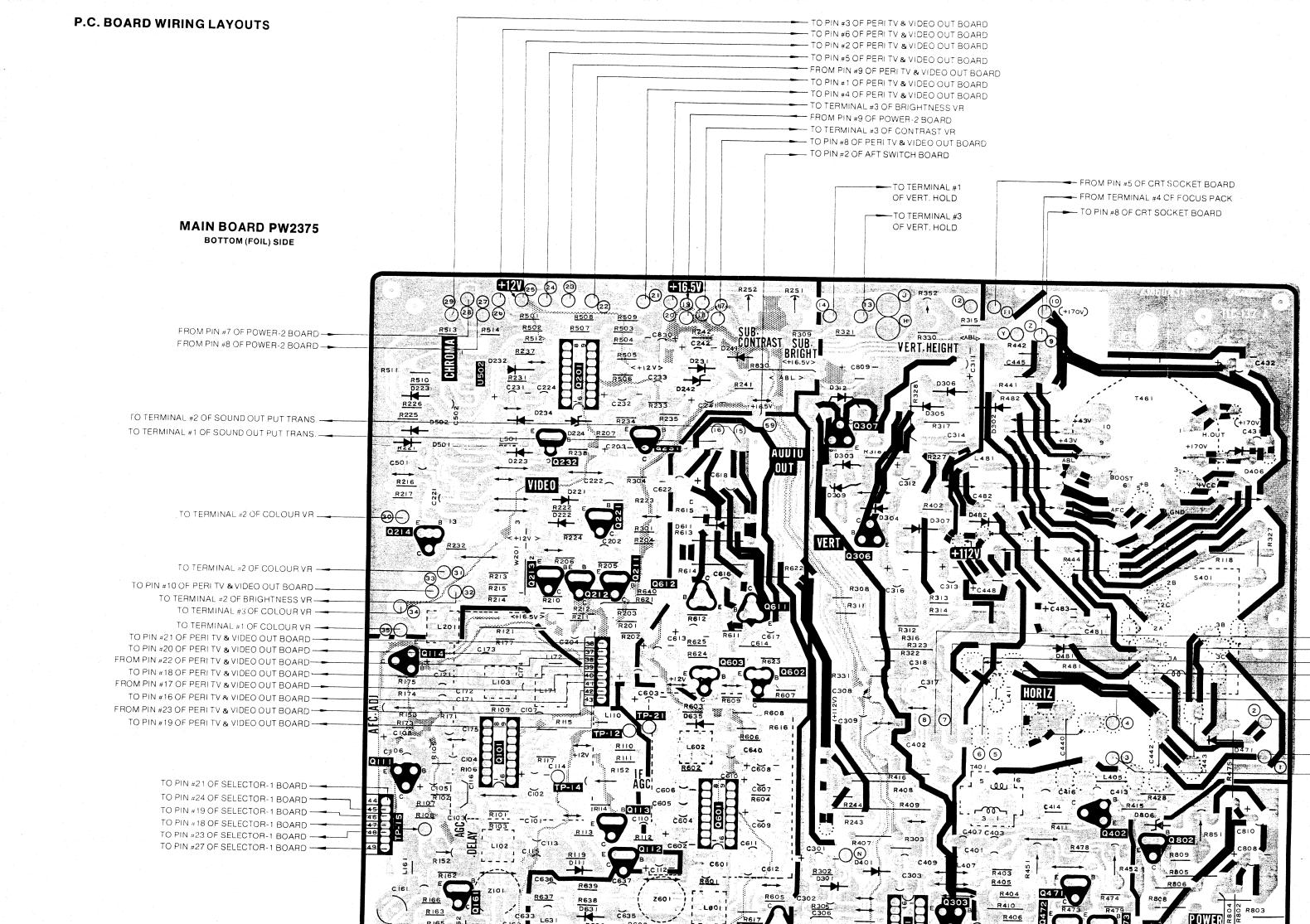
PERI SOCKET IN/OUT SIGNAL

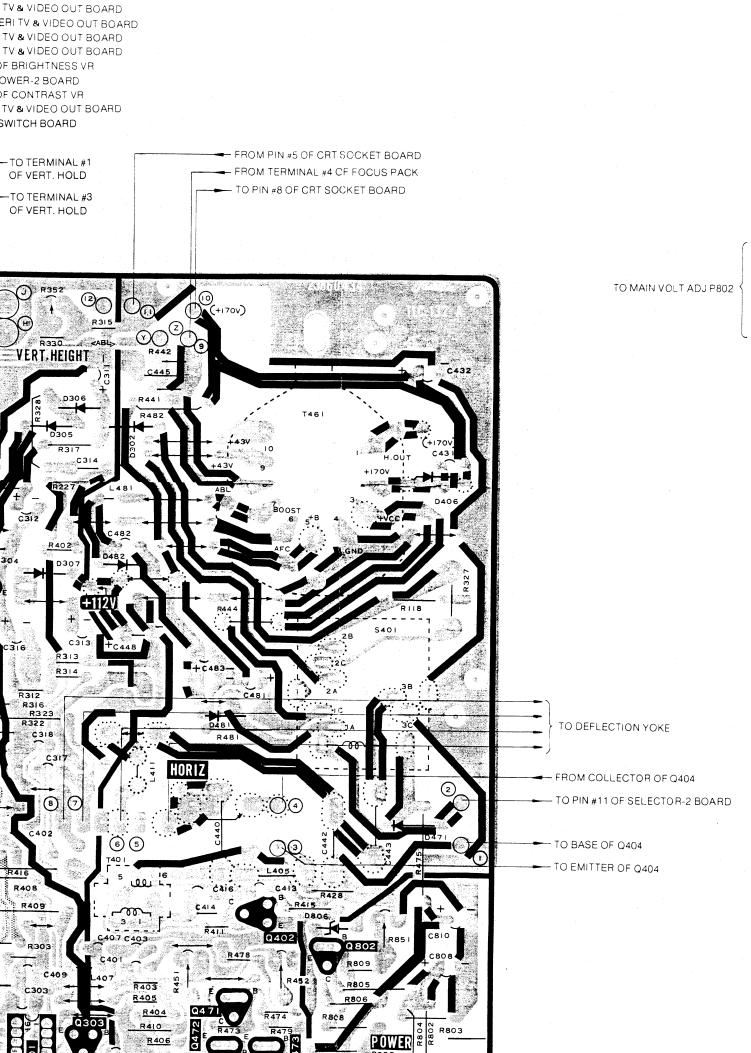
	PIN	SIGNAL	SPEC
	1	AUDIO OUT	100mVrms ± 3dB
	2	AUDIO IN	100mVrms 23dB
ı	3	AUDIO	100mVrms ± 3dB
	4	AUDIO EARTH	
	5	BLUE EARTH	
П	6	AUDIO IN	100mVrms ±34B
	7	BLUE IN	1Vp ±348
	8	PERI/TV	TV 0 - 1V PERI 10~12V
	9	GREEN EARTH	
	10	NC	
	11	GREEN IN	1Vp ± 3dB
	12	NC	
	13	RED EARTH	
Ш	14	NC	
IL	15	RED IN	1Vp ±3d8
	16	RAPID BLANKING	0-0~0.4V 1-1~3.0V
	17	VIDEO EARTH	
	18	RAPID B EARTH	
	19	VIDEO OUT	1Vp-p +648
	20	VIDEO	1Vp-p ±3d8
	21	SHIELD EARTH	





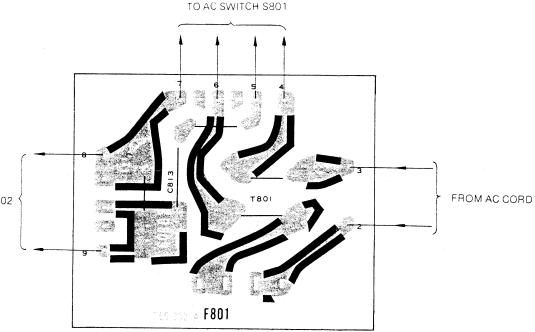






TV & VIDEO OUT BOARD
TV & VIDEO OUT BOARD
TV & VIDEO OUT BOARD

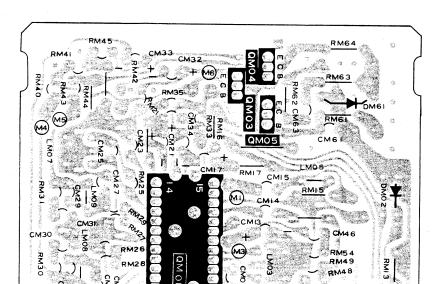
POWER-1 BOARD PW2372 BOTTOM (FOIL) SIDE



CHROMA MODULE FM523
BOTTOM (FOIL) SIDE

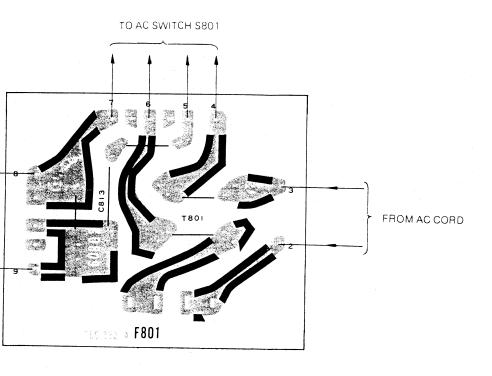
FROM PIN #41 OF MAIN BOARD --

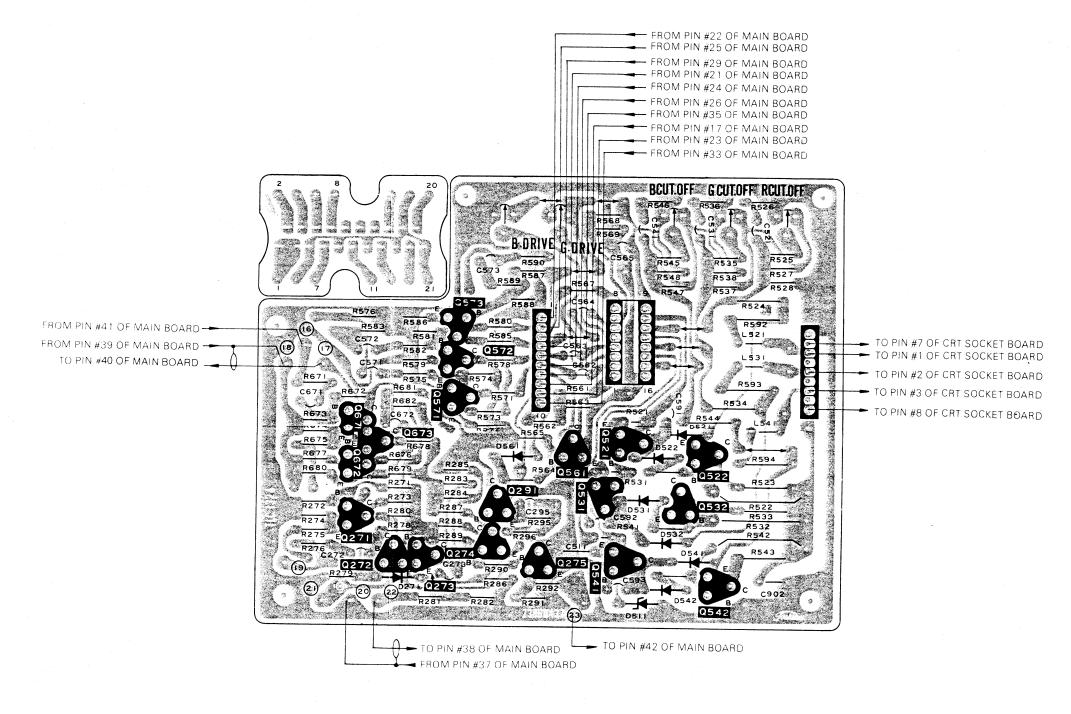
FROM PIN #39 OF MAIN BOARD TO PIN #40 OF MAIN BOARD



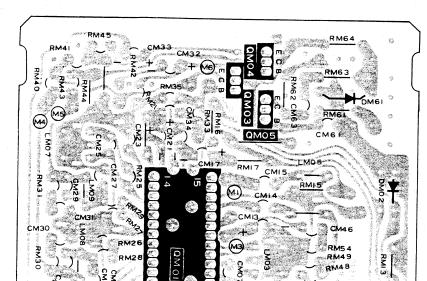
POWER-1 BOARD PW2372 BOTTOM (FOIL) SIDE

PERI TV 8 VIDEO OUT BOARD PW2377 BOTTOM (FOIL) SIDE





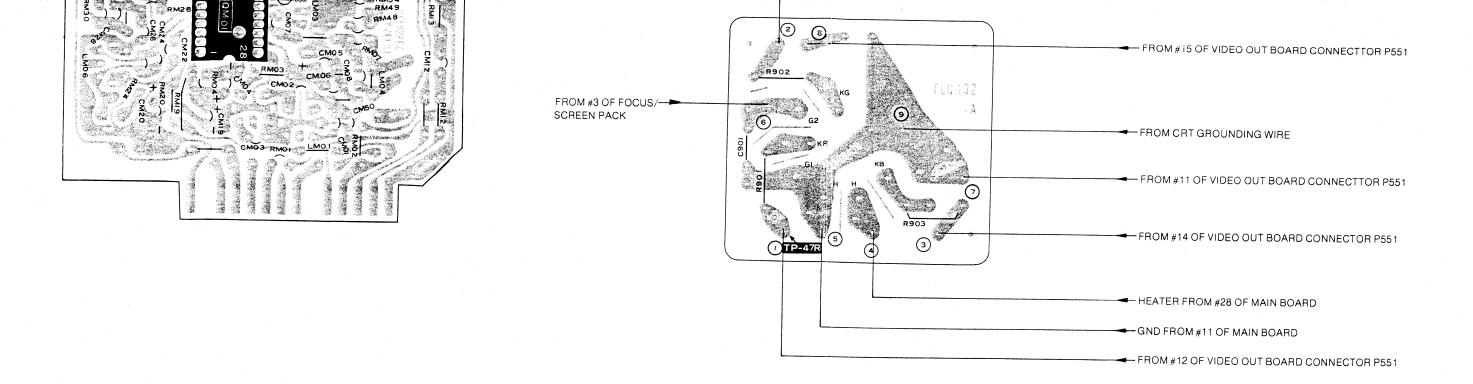
CHROMA MODULE FM523
BOTTOM (FOIL) SIDE

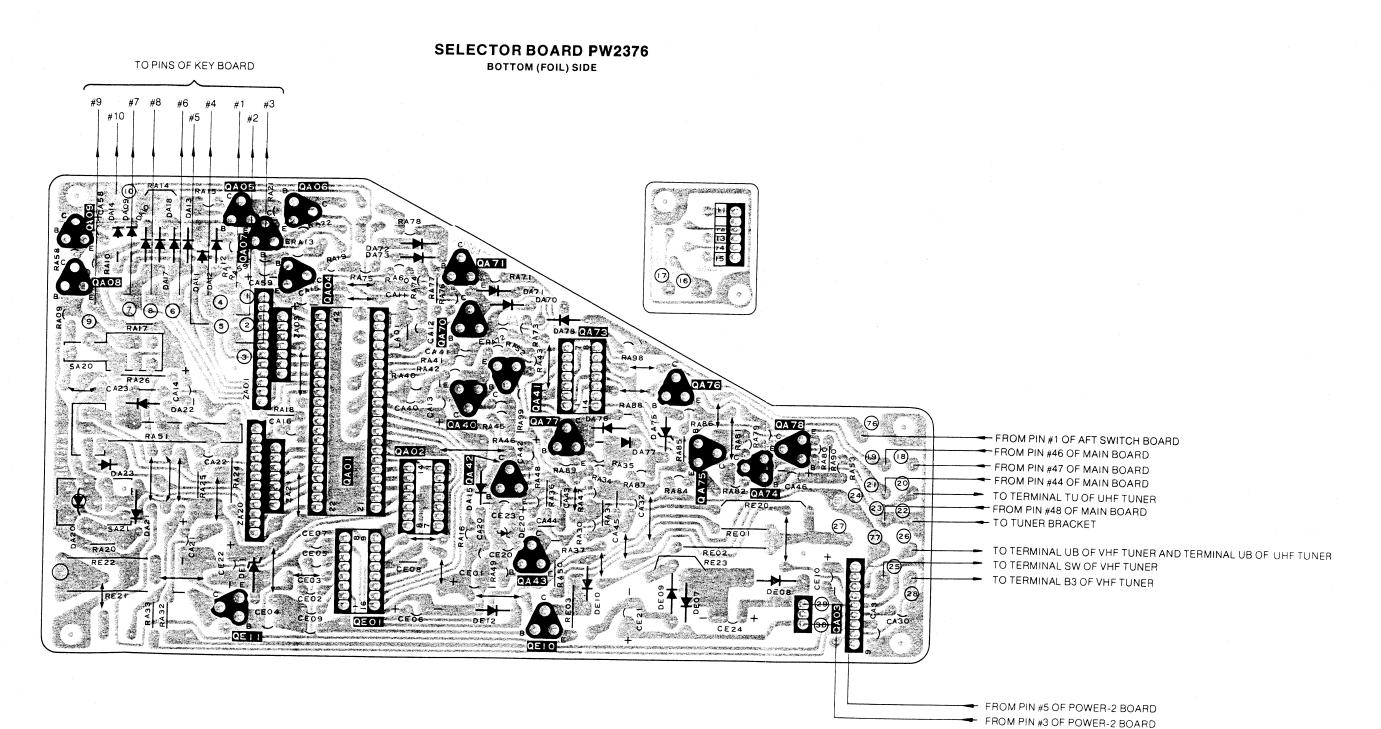


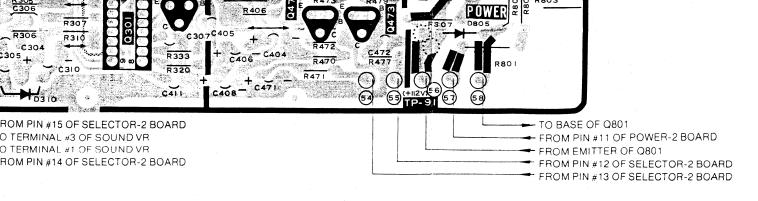
CRT SOCKET BOARD PW2374

BOTTOM (FOIL) SIDE

FROM #13 OF VIDEO OUT BOARD CONNECTOR P551

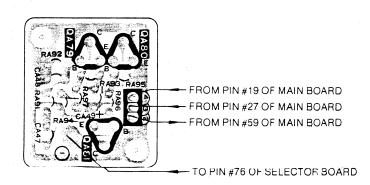






AFT SWITCH BOARD PW2539

BOTTOM (FOIL) SIDE



IN # 19 OF MAIN BOARD

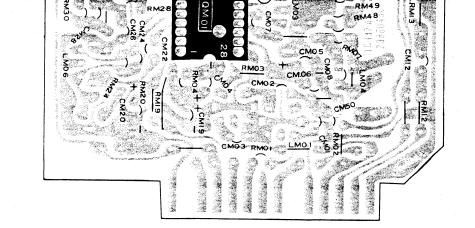
IN #27 OF MAIN BOARD

IN #28 OF MAIN BOARD

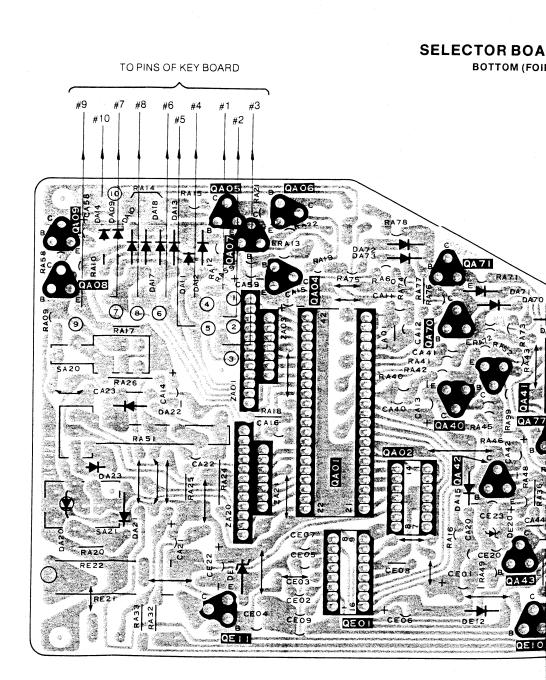
M TERMINAL #10 OF POWER TRANS.

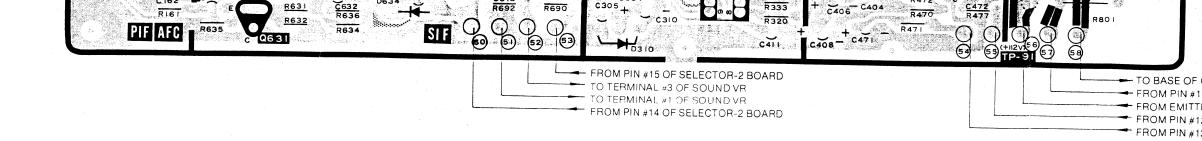
M TERMINAL #9 OF POWER TRANS.

M TERMINAL #7 OF POWER TRANS.



FROM #3 OF SCREEN PAC





POWER-2 BOARD PW2373 BOTTOM (FOIL) SIDE

P501

TO PIN #57 OF MAIN BOARD — [O PIN #12 OF MAIN BOARD. (a) TO PIN # 19 OF MAIN BOARD **©** TO PIN #27 OF MAIN BOARD \bigcirc TO PIN #28 OF MAIN BOARD • FROM TERMINAL #10 OF POWER TRANS. FROM TERMINAL #9 OF POWER TRANS. TO DEGAUSSING COIL FROM TERMINAL #7 OF POWER TRANS. (w) \bigcirc FROM TERMINAL #6 OF POWER TRANS. FROM TERMINAL #5 OF POWER TRANS

AFT SWITCH BOARD P

BOTTOM (FOIL) SIDE

